



S. A. Breed, N. P. Cutler, Carney, Moss, Ashton, D. D. Jackson, King, Hopewell, Barnes
 H. L. Clapp, Crosby, W. B. Page, Moody, F. N. Dillon, Edwards
 Latham, Gladden, J. H. Reed, Dawes

technology review

Published by MIT

This PDF is for your personal, non-commercial use only.
Distribution and use of this material are governed by copyright law.
For non-personal use, or to order multiple copies please email
permissions@technologyreview.com.

The Technology Review

Published at Cambridge "A" Branch, Boston, Mass.
ROBERT E. ROGERS, *Editor*, Massachusetts Institute of Technology, Cambridge, Mass.

VOL. XXI

JANUARY, 1919

No. 1

ANNUAL ALUMNI DINNER SET FOR MARCH FIRST

It is to be hoped that the annual dinner of the Institute's alumni, set this year for Saturday, March 1, will be unusually well attended. It will be not only the first and best opportunity Technology men have had to talk over our work in the war, to find out what the other fellow and the other classes have been doing, but it will give an opportunity for all present to inspect the Walker Memorial as it is going to be in the future, cleared of military activity, the clubhouse of students and their activities and of the Faculty.

It is hoped that as many classes as possible will set their reunions for that date and will get together to inspect the Memorial in the afternoon before the dinner, which will be at seven o'clock in the Great Hall.

The speakers will be notable. Besides President Morss, who will review alumni activities for the year and act as toastmaster, the program will include Governor Coolidge of the Commonwealth of Massachusetts, President Maclaurin and Van Rensselaer Lansingh, '98, who will reminisce about his experiences in Europe. Also, Walter Gordon Merritt of New York, expert attorney on labor litigation, will tell what we have to expect from labor conditions in the future.

The dinner will be inexpensive, to meet peace-time conservation conditions, and it is hoped that we shall have a record celebration.

THE ALUMNI COUNCIL.

IN MEMORIAM

In view of the fact that there are at present over eighty names on the Institute's roll of honored dead, the publication of whose memoirs and photographs would overflow the REVIEW for a long time to come, we have tentatively discontinued that feature, which began only last issue, in the hope that arrangements can be made to publish brief notices and pictures of the entire list, in one pamphlet to be published either as a supplement to the REVIEW or as an independent volume, possibly by Commencement next June. That would be the most fitting time, and we feel sure the alumni would be interested in such a volume.

THE EDITOR.

THE NOVEMBER MEETING OF THE COUNCIL

THE sixty-sixth meeting of the Alumni Council was held at the Engineers' Club, 2 Commonwealth Avenue, Boston, Monday, November 25, 1918. The usual informal dinner was served at 6.30 P.M., with an attendance of thirty-two, at which Mr. Morris Knowles was salad orator. The guests were President Maclaurin and term members of the corporation.

The business on the call for the meeting was: To receive present and retiring term members of the corporation. To discuss the question: Shall an Alumni Committee to assist men in the service to obtain professional employment be appointed?

President Morss announced the appointment of Mr. Palmquist of the Young Men's Christian Association as curator of the Recreation Room for the S. A. T. C. at Technology. The president also announced that the association had joined with the Alumni Magazines, Associated, to benefit by their joint scheme for advertising.

Announcement was made concerning the Annual Dinner, now set for Saturday, March 1, in the Walker Memorial. Professor Spofford spoke to the Council on the question of employment of graduates, and suggested that a committee be appointed by the Council. After a discussion it was voted that a committee be appointed by the Chair to consider the problem of employment of graduates and if it deems wise, co-operate with the local associations on this problem. The question was raised as to whether or not "The Tech" could be used as a medium of announcing opportunities for graduates and calls by employers for Technology graduates. The alumni representative on the Board of Management of "The Tech" stated that he believed that this could be arranged.

The president announced the appointment of Mr. Charles W. Eaton, '85, as Field Manager, subject to his acceptance. Mr. Eaton is at present abroad on war work.

The question of the M. I. T. Committee for National Service, as to how long this committee should be carried on and what further support could properly be given to the War Service Auxiliary was discussed. It was voted: That it is the sense of the Council that the Executive Committee should inquire into the future needs of the M. I. T. Committee on National Service and of the committee known as the War Service Auxiliary, and report on this at the January meeting of the Council.

Mr. Bemis spoke upon the devotion of Mrs. Cunningham, and suggested that whatever should be done concerning this committee should only emphasize the appreciation of the Council of the unusual work which has been undertaken and so successfully carried through by Mrs. Cunningham. Another speaker suggested that our appreciation of the work done by Mrs. Sedgwick in her particular part of the work should also be noticed.

It was suggested that a review should be made at the annual meeting of what has been done during the past year and a half by an informal report and that later a formal report would probably be presented.

President Morss quoted the vote of May, 1917, which suggested the Council's devoting each year one meeting to the reception of the retiring term members of the Corporation and the newly elected term members of the Corporation. He then introduced to the Council the term members of the Corporation who were present: Messrs. Stevens, '68; Carlson, '92; Rollins, '78; Horn, '88; and Little, '85. These term members spoke of their connection with the Corporation, about their work upon the visiting committees, and of the honor which befalls any alumnus elected

to this position. One term member spoke of his endeavor to get in touch and to know personally all teachers of the Department of Architecture upon whose visiting committee he served, together with his effort to get in touch with the students. At this time, the registration in architecture is at its minimum on account of the war, and a plan had been formed by which a joint committee was made up of the staff of the Harvard School of Architecture with our own staff, and he had been asked to serve as chairman. This committee was reviewing the opportunities of making such changes as would help the school. These changes can be made at this time more easily than at other times on account of the small number of students. Another spoke of the re-establishment of the School for Chemical Engineering Practice, which had to be abandoned temporarily because of the war and the calling away of the various instructors to places where sections of the school have been conducted. He mentioned the numerous engineering problems which lie before the country; problems which must be solved by the engineer, many of them by the chemical engineers.

It was suggested by another term member that it is better not to re-elect term members because there seems to be the tendency to confine the alumni activities to a relatively small group of alumni. He emphasized the need of having new men interested. He believed, however, that the term members were a valuable asset to the president and the Executive Committee, for it formed a group of men upon whom they could put special problems.

Mr. Rollins spoke further upon the work of the War Service Auxiliary and upon the need of carrying on the Technology Bureau in Paris for some time to come. A question was raised as to whether or not the material on hand which has been made by the Women's War Service Auxiliary could be used for people other than Technology alumni, and it was voted that the Council endorses the recommendation of the M. I. T. Committee on National Service that the War Service Auxiliary be empowered to distribute this material, not needed by Technology men in service, for the benefit of refugee work. It amounts to material valued at about \$2000 to \$3000.

THE MEMORIAL AT LAST!

Gymnasium and whole of Memorial to be ready February 1

THE Walker Memorial, for the first time since it was built, will be at the disposal of the students of the Institute not later than the first of February. The Naval Aviators will be withdrawn by the 18th of this month, and the painters expect to be through shortly. The need of a recreation hall has been sadly felt during the past two years and it is hoped by the students that the opening of the Memorial will alleviate this want. The Walker Memorial will now be put to the use for which it was intended, namely that of a student activities and recreation building. The well equipped Walker gymnasium will also be ready for the various indoor teams and will aid them greatly in getting their training, so necessary for a victorious season. The heads of the activities which are going to be in the Walker are going to get together on the fourth and with the aid and advice of Bursar Ford pick out their quarters.

The plan is now that the Alumni Dinner on March 1 will be really a dedication of the building to the uses of the students, as has always been intended.

CLASS BOOKS OF THE WAR

EVERY Technology alumnus who has been interested in the activities of Technology men, whether his classmates or not, in the war, has felt no doubt the inadequacy of the material that has been published either in "The Tech" or in the REVIEW. Both of these papers have tried to publish everything that they could lay hands on, but the information to date is scattering, fragmentary and incomplete.

The editor of the REVIEW would like to suggest, therefore, unofficially that it would be a very good thing if the various classes of the alumni would publish a class book containing the complete record of their members in all branches of war service, if possible, made vivid and personal by letters written by the men themselves, letters which the growing demand on space in every part of the REVIEW makes it impossible often to publish in full.

If this were done, we should within a year have a large and valuable amount of material to go into the permanent records of Technology, and to be the nucleus for that history of Technology in the great war which we all hope to see compiled some time in the future. The editor of the REVIEW would like to have all alumni who are interested in this project write to their class secretaries, to the Association of Class Secretaries, and to the Alumni Council, giving their views on the subject.

A SECRETARY FOR 1919

THE youngest class graduated in such a hurry and in such disarray, that no secretary was ever elected. For that reason THE REVIEW is able to print only such notes as have come to hand in the Tech.

But by the Alumni Dinner of March 1, 1919, the secretary should be elected by postal ballot and should be able to canvass his class for news for the April issue.

In the meantime, however, all 1919 men who have information of interest to their classmates, about themselves or others, may send their notes directly to THE TECHNOLOGY REVIEW.

TO THE YOUNGEST OF THE CLASSES

President Morss's letter to the scattered members of 1919

TO THE MEMBERS OF THE CLASS OF '19:

It is with great pleasure that I welcome the members of the Class of '19 to membership in the Alumni Association. While, owing to the war, the class was not welcomed at the time of graduation, as has been the custom for many years past, I can assure you that the welcome at this time is no less hearty and cordial than if it had been extended when you graduated.

The Alumni Association is an organization to which it is well worth your while to belong. Its influence in Institute affairs is very considerable. As you doubtless know, it selects each year from its membership three representatives who become members of the Corporation for five-year terms, thus making a total of fifteen alumni members on the Corporation. The Alumni Council, which more directly has charge of the work of the Alumni Association, is composed of representatives of all graduate classes and of local associations, a few members at large and the five most recent past presidents of the Association. Its work extends to all phases of Institute work in which it can properly take a part; for example, the raising of funds for special purposes, the oversight of and help to student activities and to the help and advice even concerning the curriculum.

Each graduate of your class becomes a member of the Alumni Association by virtue of his degree. Other members of the class may be elected to membership. If any non-graduate will fill out and return the application blank for membership I shall be very glad to present his name to the executive committee for election.

While the influence of the Association in direct Institute affairs is great, its service to individual members is perhaps even more important in keeping former students in touch with each other and with the Institute. The headquarters of the Alumni Association are in Cambridge, but in many places in this country, as well as in foreign countries, there are local associations which it is the privilege and should be the duty of those in each place to join. The names of all those who keep headquarters posted as to their address are sent to the secretaries of the local associations, and this makes it easy for any man to join the local association where he may be and know his Technology neighbor.

The dues of the Association are very small and I hope each of you will pay them, for they include subscription to the TECHNOLOGY REVIEW, which is perhaps the best means of keeping those at a distance in touch with other men and affairs of the Institute.

At the banquet of the Alumni Association which will be held in the Walker Memorial on Saturday, March 1, 1919, and which I trust as many as are able will attend, I shall take the opportunity to extend to all members of the Class of '19 a formal welcome to the Alumni Association and to present to the class its Alumni Class Banner.

HENRY A. MORSS,
President.

Cambridge, January 1, 1919.

DR. MACLAURIN AND THE S. A. T. C.

The National Director explains work of the Student Army Training Corps

THE first authoritative statement on the much discussed organization and demobilization of the Student Army Training Corps in over five hundred American colleges was made by its national director, President Richard C. Maclaurin of the Institute, at the meeting of the American University Association, yesterday afternoon, December 5, at the Harvard Medical School. In it Dr. Maclaurin stated the difficulties that lay in the way of a successful organization and showed that the admitted failure of the present scheme can have no bearing on any future possible attempts of the same nature.

Dr. Maclaurin said: "I understand that when the program was set up, an hour or so was set aside this afternoon for the discussion of the merits and demerits of the S. A. T. C. Great events have, however, intervened, with the result that today the S. A. T. C. is practically at the end of its career. We are here to bury Cæsar, not to praise or blame him. It is suggested, however, that before performing this pious act we should look a little into his history and see what lessons can be learned from the brief record. In the middle of the summer when I was asked by the Secretary of War to accept the educational directorship of the S. A. T. C. the plan presented differed in many important respects from that which stress of circumstances made it necessary to adopt when the work was actually begun. The radical difference was that the first plan proposed to induct the students into the army, but then to place them on furlough status prescribing only a limited amount of drill and requiring a few hours per week to be devoted to the study of the so-called Allied Subjects. This plan would have interfered comparatively little with academic freedom and would, I expect, have avoided most of the educational difficulties that actually presented themselves later. Circumstances, however, made its adoption impossible, the main factors in the change being two: First, the passage of the man-power bill, and second, and far more important, the publication simultaneously with the passage of that bill, of the plan to have four or five million men in Europe by the first of July. Under the changed conditions the law advisers of the War Department advised the Secretary of War that the plan of putting the students on furlough status was illegal, and to overcome this and various other difficulties that were presented, it was decided to place the men on active status and this had as necessary consequences the furnishing of barracks, subsistence and tuition and the payment of thirty dollars a month to each soldier. Before this change of plan was made, tentative regulations had been drawn up and these regulations having been presented to representatives of the colleges and universities of the land met with almost universal approval. Military instruction and discipline were to be in the hands of a military officer and this officer was to have the same relations to the president of the college as a member of its Faculty. That scheme was devised, of course, to overcome the obvious difficulties of dual control, but the change to active status was held by the military authorities to necessitate a change in the relations between the commanding officer and the president and this change had, as all of us who were associated with educational institutions predicted, many unfortunate consequences. Apart from this, however, the announcement of the policy of the authorities to transport an army of

four or five millions to Europe by July 1 could not but affect, and profoundly affect, the plans of the S. A. T. C. As these student soldiers could not be in any way privileged, they must be drawn into direct service at about the same time as those soldiers of similar age who were not in the colleges. This necessitated the rule about the division of the college students into three groups arranged with reference to their age — those of twenty years of age, those of nineteen, and those of eighteen—and the corresponding regulations regarding the courses to be pursued by these different groups. The difficulties inherent in this situation were recognized by every one who appreciated them to be extremely formidable, but there were, as you know, various special circumstances that greatly increased the inherent difficulties. Much the most serious of these was the epidemic of influenza and pneumonia which swept across the country and struck practically all the colleges most inopportunately either just as they were about to begin their work or within a week or two after they had begun it. This epidemic not only left a trail of discomfort and woe, but led to further delays. The process of induction which should have been completed at the very beginning of the term dragged over for a month or so, the process being greatly prolonged by the failure of the local boards to return the necessary papers quickly. Simultaneously with these troubles came those consequent on the breakdown in the Quartermaster's Department and the consequent failure of supplies of uniforms, bedding and the like. None of these difficulties had anything whatever to do with education, but that side of the work was not free from trouble. Plans had been carefully laid for a system of education that was consistent with the scheme approved by the authorities before the passage of the man-power bill, and the change of plans necessitated radical changes at the very last moment when most of the colleges had either already begun or were just about to begin. Further to complicate the difficulties, authority to spend money on publications was withheld until a time when most of the colleges naturally expected to be well under way. I have gone over these matters because some of them may be new to some of you, but you all know that through various causes the S. A. T. C. was scarcely launched before its need was happily removed by the signing of the armistice.

If you bear all the circumstances in mind I do not see how you can come to any other conclusion than that there is little or nothing to be derived from the experiences of the S. A. T. C. that can throw any light on what should be the permanent policy of the country regarding the relations between military and academic training. The conditions under which it worked were all exceptional and all abnormal. The whole condition of the country was not more abnormal than was that of the minds of the students and to a lesser extent of the Faculties. Amongst the few phenomena possibly worth recording are the following: First, the self-sacrificing spirit of practically all who gave themselves to the task of directing this effort; second, the thoroughly good intentions of practically all the army officers, combined in a few cases, it must be admitted, with almost complete lack of appreciation of the difficulties of the problems as presented to the academic mind; third, the individualistic outlook of many, although not all, of the colleges and their difficulty in spite of good intentions of recognizing the military exigencies of the situation. However, do not let us commit the mistake of glibly making generalizations as to the result of S. A. T. C. experiences. Some college presidents are quoted as saying that the experience has proved that military and academic training can not go together, apparently forgetful of the fact that they have gone together with rather conspicuous success in many of the military and naval academies of the world. I am not suggesting, of course, for a moment that the combination of military and academic training such as is to be found at West Point or Annapolis is either necessary or desirable

in the colleges and universities of this country. All that the experience of the S. A. T. C. proved was what any one would have expected,—that such a combination could not produce satisfactory results in a few weeks, that it requires time and patience to overcome the difficulties inherent in it and a great deal more careful planning and arrangement of details within each college than was practicable in the very few weeks during which the S. A. T. C. was actually operating. Reports came in from all quarters that difficulties were being overcome and that particularly in the smaller colleges things were beginning to go well, and I have no doubt that with the general good-will and co-operative spirit that prevailed, most of the difficulties would have shortly disappeared. However, all this seems to me rather beside the mark if we are considering the future, for in the future, of course, except in case of actual war, we must have far greater academic freedom and far less military control,—something much more nearly approaching the system that has prevailed for more than half a century in the Land Grant Colleges, with the possibility, I hope, of a more intensive military training in camps during the summer. The provision of work in summer camps would present some special difficulties to technical students but the problem of these students is special anyway and would call for special treatment. It should never be permitted to happen again that the country be called upon suddenly to provide a large army of technical experts for the needs of war. If we are optimistic enough to believe that war is to be abolished then there is no problem for us to discuss today, but if war is to remain a possibility we must face the fact that it would tend more and more to be a war of applied science and the nation that does not take that lesson to heart by training men to apply science to war-like ends should necessarily demand such an application would surely go down in the next great conflict.

TECHNOLOGY A REGULAR ARMY POST

ON Monday, January 6, the Department of the Northeast took over the barracks occupied by the Students' Army Training Corps at Technology. The 7th, two companies of the 36th, provost guards, moved into the barracks where they will remain indefinitely, probably until all the men returning from overseas have been discharged. One company of the guards is now stationed in Boston and the other is at Camp Devens. The post will be under the command of Major Hickey, U. S. G.

Besides the barracks the "Y" hut passes out of Institute hands. The hut will be taken over by the New England district of the Young Men's Christian Association on Monday and Mr. Ames will probably be here as secretary. The Technology Christian Association for which the Young Men's Christian Association functioned during the fall term, will be removed to Room 3-115. The quarters will be temporary, but the book exchange and other departments of the Technology Christian Association will remain open and in charge of Mr. Palmquist. The "Y" hut will be closed to students after today.

The provost guards will number about three hundred. They will eat in the mess hall and have the benefits of the "Y" hut, which will be refurnished by the Young Men's Christian Association. The furnishings now in the "Y" hut belong to the Institute and will be used by the Technology Christian Association.

EDITORIAL

Why the S. A. T. C. Failed

LAST December, just before the end of the term, three former undergraduates dropped into my office, all three lieutenants of military aviation, who would have been overseas, save for the armistice, and who were now awaiting their discharge in order to enter Tech again in January. In their discussion of the army and of Technology all three said the same thing with surprising unanimity.

"We never respected Tech so much as we do now, when we have seen what the graduates of other colleges can do with their minds under pressure. We never realized how good our instruction was, how lucky we were. We're homesick to come back, and so is everybody we have seen."

"Everywhere we have been we have had testimony to the universal admiration for Tech, Tech training, and the part Tech men played in the war.

"But we have no use any more for military training in the colleges. We know what army instruction is like. Mainly incompetent. We often knew more than our instructor about technical matters which he was supposed to be teaching us.

"There should be no place for that kind of thing in Tech. Let us go back to the old Tech as soon as possible."

That is one point of view, that military instruction is not up to the Tech standard. But one must doubt whether that was the real cause why the S. A. T. C., both here and in other colleges, failed, as almost universal testimony seems to agree, some of which we are printing at the end of this editorial.

President Maclaurin, national director, in his address printed in another part of this issue, lays the blame on the short time the organization was at work, on the influenza, on the man-power bill, on the lack of co-operation between academic and military authorities. All of this is undoubtedly true, but the real reason lies deeper and on that Dr. Maclaurin did not touch.

Technology was particularly fortunate in some respects. The men had provided for them one of the best plants in the United States. Regular army officers said that the barracks and the mess hall were luxurious beyond the dream of the average army man. We also had in our student-soldiers an admittedly abnormally high level of intelligence.

We also were fortunate in having as Commandant, Colonel Cole, who was probably one of the few in the country who had genuinely at heart the interests of the college and considered them as precedent to those of the army. Hindered and hampered as he was by the inevitable irregularities of the first month, by red tape and conflicting orders from Washington, by a little group of willful officers, he yet tried with all his power, so far as in his authority lay, to make the academic side of the plan the important one and to put the military training in its logical place. He tried not to have drill, guard-mount and fatigue cut in on recitation and study hours, and in large part he succeeded. Yet the whole place was a hotbed of constantly increasing dissatisfaction as December drew along.

Part of the fault lay with the Faculty. It cannot be denied, I think, that the study time of the students, sharply defined as it was, was not sufficient to do all the work assigned. Furthermore, study was only too often carried on under condi-

tions which made it impossible for young and inexperienced men to concentrate properly.

In other words study time must not only be adequate, but it cannot be scheduled and disciplined, if the results are to be good. And in exactly that point lay the fundamental reason for the failure of the S. A. T. C.

The value and necessity of leisure in the life of men who are doing hard, intellectual work was absolutely ignored by the army regulations. A man is not always able or inclined to study. To expect him to do it at a set hour, and a limited one at that, is preposterous. To expect him to do it in a few regulated hours, when he is fatigued, body and mind, by hours of classroom attention and of fierce bodily exercise, one treading on another's heels, is monstrous. It is physically impossible.

But the question goes deeper still . . . to the value of the unregulated but constructive leisure hours of the students outside the school. I believe firmly that in the ordinary college of liberal arts, great or small, some forty per cent of the value of the whole course is to be gotten only out of the students' spontaneous organization of their own leisure, call it "activities" if you like. The man who avoids or misses them misses a real part of his college curriculum and one of very real value. And, bear in mind, the colleges turn out men who make their marks on their age, quite as frequently as do the professional schools.

In Technology the actual number of hours of class, laboratory, and study are so many that leisure must take a minor position. But even in Technology the value of the students' spontaneous constructive leisure is not less than fifteen per cent. The student who misses such activity altogether goes out into the world lacking things which will be of real importance to him in his life work, the art of dealing with men and of managing affairs.

There is where the S. A. T. C. failed! There is no doubt that regular military life is unutterably vacant and boring . . . that is the reason why the leisure of the common soldier and sailor is too often profitless or actually harmful. Take military restraint, discipline and a fixed schedule, therefore, and add to it an academic fixed schedule of recitations and study, with absolutely the minimum of leisure, so short that all a man can do is go into town or sit in the Young Men's Christian Association hut lazily listening to some one jazzing on the piano—is there any wonder that our Tech men went stale? It is the only word I can think of and it betokens a very harmful state of affairs.

There is the moral. Leisure, unregulated but encouraged to organize spontaneously, is the life-blood of any school, the heart that feeds the scholastic brain. A school under genuine military control has no room for any leisure at all. Therefore, the military system and the intellectual life are absolutely incompatible, and where combined can produce only inefficiency, lack of morale and deadened intellectual interest . . . thus defeating the purpose of education.

And I will add that any attempt by college authorities alone to run a school on the basis of a schedule that leaves no leisure or encouragement for spontaneous organized leisure among the students will drive them, just as the private soldier and sailor are driven, to the useless and harmful amusements . . . the dance hall and the cafe . . . in search of what they would prefer to find, in a self-respecting, worth-while, sublimated form, in their own school home.

R. E. R.

I add a paragraph or two of quotations, the first from the Chicago "Herald-Examiner."

The Student Army Training Corps has proved an interesting experiment. It was a paper scheme, cut to an ingenious pattern. It has not fitted the situation exactly, but how could it?

It was planned to give young men simultaneous training in military affairs and in academic subjects. It has worked out more on the line of a loosely run cantonment with educational decorations. Especially for technical students—medical students, engineering students, chemical students—it has so far been pretty nearly a failure. The men who do most of their educational work in laboratories have found that they have too little time for study. A good many men of this sort are already planning to take this year's work all over again when they are discharged from service.

Even the "ordinary" students who are trying to learn mathematics and French and English have had their troubles. At the University of Illinois the month of October was found to have been so largely wasted that on November 1 they decided on a fresh start; they began all their classes over again. Scores of men reported that they had been unable to attend a single class in the first thirty days.

The National Association of State Universities, which has just met in Chicago, recommends a readjustment of college curricula by January 1. It wishes the S. A. T. C. continued, but wants its work better defined. The net result will be to give many thousands of boys an interest in higher education. And that at least is pure gain.

And the "Transcript" said:

There is fairly free discussion of the whole matter in a general way in the corridors and some facts are evident. One of these is that the M. I. T. curriculum has not been lowered by the changes and the study hours may after all be gauged by the needs of the strongest men, so that military outlining of certain definite hours for studies outside of which there is absolutely no time to be given to them leaves in the lurch excellent young men who under normal conditions might add a period or two of work after hours in the evening. The presence in the college of a group of young men who in view of the probabilities of the cessation of hostilities preferred to remain civilians and answer when drafted complicates the matter. These young men at Technology are not to be considered slackers, for the whole tenor of advice there has been to finish technical studies first and then get as quickly as possible into war service or industrial, and they have followed the advice. Although they are given a liberal allowance of military drill and must take the war issues studies, they are still free to attend all the lectures, without interruptions for guard duty, and can study as late at night as they please and at their convenience. They sit, however, in the same classes with the S. A. T. C. in many instances, and have definite advantages in the fuller time they can give to studying.

CHEMISTRY AT THE FRONT

By Henry P. Talbot, '85

The Review considers it highly worth while to reprint from the Atlantic Monthly of August, 1918, Professor Talbot's article on a subject whose secrets were so jealously guarded and on which he, as an important member of the Chemical Service of the army, is more than qualified to speak.

I

SOON after the opening of hostilities, this world-war was referred to by certain writers as "a chemists' war." While this phrase, like many of its kind, implies too much, it gives appropriate emphasis to the part which the chemists are playing in the great struggle.

Ever since the tension of the bowstring as a means of propelling projectiles was displaced by the expansive force of the highly heated gases generated by explosives, the chemist has had to assume a large responsibility for the successful supply of fighting materials and the outwitting of the enemy. With the progress of the centuries, this responsibility has grown in intensity and has become so ramified as to include the development, not only of explosives, but also of projectors and projectiles, the production of an endless variety of materials for use at the front, and the equally important task of providing for the maintenance of adequate food supplies, and of necessary industrial activity at home.

And to all this has now been added a task which, in view of our general belief in an honorable regard for international conventions, had been looked upon as outside all bounds of probability, namely, that of pitting our best brains against those of the enemy, for the discovery of more and more insidious and cruelly poisonous gases, and of methods to protect our own brave fighters from each new and more vicious device of our opponents. However much we may condemn gas warfare as unsportsmanlike, and deplore the expenditure of intellectual effort which it is demanding, we must play the game; and in this phase the war is pre-eminently "a chemists' war."

The importance of the chemist in our own military organization has been definitely recognized by the creation of a Chemical Service Section of the National Army, with a lieutenant-colonel as its ranking officer, and provision for a personnel of about thirteen hundred officers and men. The important functions of this section are the correlation of information accumulated at home and at the front, and the induction into chemical service of drafted men with chemical training. The establishment of this section not only is a distinct step forward in the interests of military service, but affords a too long delayed recognition of the parity in importance of chemical engineering with that of the other and older engineering professions.

Among our allies it is known to be true, and among our enemies it must be true, that chemists are almost to a man throwing their whole and best energies into the solution of war problems. Plans are already maturing for the recruiting of the forces of our allies by sending men to their chemical laboratories, as well as to fight in the field.

If the chemist is concerned with the problem of feeding the guns of the expeditionary forces, he is no less concerned with a problem which has become equally serious, that of feeding the bodies of the fighting men, and of those of the entire population of the allied nations. Conservation and the regulations of our food

administrators are topics of daily thought and conversation. With these affairs the chemist has much to do, through the improvement of the preparation of foodstuffs and by providing safeguards against frauds and against the general introduction of insufficient dietaries.

But, besides conservation, there must be stimulation in production of foodstuffs, notably through intensive agriculture. It has been stated that a reduction of the cost of soluble nitrogen compounds to a price comparable with that prevailing in Germany before the war, would add a billion dollars to the annual value of our crops. The significance of this statement today does not, of course, lie in the increase in monetary worth, but in what it would represent as a war resource. This phase of the chemists' problem is, moreover, closely linked with that of the ammunition supply. Nitric acid and ammonia are necessary for both ammunition and fertilizers, and the failure to maintain an adequate supply of both would be fatal to the success of any of the warring nations.

II

An explosion is the result of the rapid generation of gases which are at the same time highly heated, causing them to expand with great force, in accordance with well recognized principles of physics. If, for example, a flame is applied to a mixture of illuminating gas and air, the temperature of the gas mixture at a point near the flame is raised to the so-called ignition point, chemical combination ensues, and new and highly heated gaseous products result. If the gas mixture is confined, the confining walls are often disrupted.

The explosives in common use differ from the mixture just described, in that they are not gaseous at the start. They are sometimes liquids, but are generally solids, and are made up of bodies which, when they are subjected to heat, or to certain sorts of shock, promptly go to pieces, yielding mostly gaseous products and liberating large quantities of heat. Almost without exception these explosives are made by the action of nitric acid upon such materials as glycerine, cellulose (absorbent cotton is nearly pure cellulose), or certain materials, like toluene, derived from the heating of soft coals out of contact with the air, as in the production of illuminating gas. They are among the so called "intermediates" from coal tars.

While to the casual observer the breaking down of the various explosives would appear to proceed practically instantaneously in all cases, accurate measurements show that there are appreciable differences in the rates of decomposition, and these differences determine the type of usefulness of a particular explosive. For example, a mixture of gasoline vapor and air is an efficient mixture for the development of power as applied to the piston of the engine of an automobile; whereas a mixture of hydrogen and oxygen, while developing greater explosive force, does so with such rapidity that this energy cannot be effectively taken up by the mechanism of such an engine, and is wasted as a dangerous disruptive force on the walls of the cylinder. An explosive which is designed to produce a maximum of disruptive effect, as in shells, mines, or torpedoes, or in sapping or mining operations, must be of the rapid type known as a "high explosive." A propellant, on the other hand, must be of such a character that the decomposition goes on with progressively increasing rapidity, thus steadily increasing the pressure developed behind the projectile, until it acquires its maximum velocity at the moment when it leaves the barrel of the gun.

To the chemist belongs the responsibility for the scientific development and improvement of these explosives. The problems are many sided. It is not enough to produce materials which, in a qualitative sense, exhibit properties which would

class them with one or the other of the types of explosives just outlined: their effects must be quantitatively measured, and must be capable of exact reproduction at will. This is rigidly true of the propellants, upon the performance of which the accurate placing of shells, when the range has been determined, absolutely depends. The limitations laid down in the specifications for such explosives permit but a very small percentage of variation in the pressure produced in the chamber of the gun. This uniformity, in turn, can be attained only by the most rigid scientific control of the manufacturing operations by the chemist, and the utmost care in guarding against subsequent deterioration during the interval between manufacture and use. Indeed, the latter phase of the problem is one of great significance. Explosives are, almost or quite without exception, composed of substances which are endothermic in character: that is, heat energy is absorbed when they are formed, and this heat is liberated when they decompose. Heat, moreover, accelerates all chemical changes. Hence, if any (even a very small) part of an explosive mass begins to break down from any cause, the heat liberated promotes the rapidity of the change, and this, in turn, is communicated to neighboring portions, until the entire mass may be involved and destroyed.

So far as it is humanly possible to do so, all exciting causes must be foreseen and forestalled; and the lack of stability during storage has necessitated the discarding of many materials otherwise of great promise. Moreover, apparently slight variations in conditions of manufacture, due to ignorance or carelessness, may result in an imperfect product, which will begin to undergo spontaneous decomposition in storage, with a final result like that outlined above. Conditions such as these have been the cause of many mysterious explosions.

As an instance of extreme instability, the behavior of a substance known as nitrogen iodide may be cited. This compound explodes with great violence if touched with a feather,—a literal instance of being “tickled to death,”—and often it is exploded by the mere friction of the air when moved from one spot to another. Such sensitiveness as this obviously places a substance outside the bounds of practical usefulness; but all explosives are, in the very nature of the case, unstable, and their preservation involves the study of factors which differ from this case in degree rather than in kind.

To attain the extreme velocities and the enormous ranges concerning which we almost daily find our credulity taxed to its limit, it is obvious that the temperatures and pressures developed within the chambers and barrels of the heavy guns must be very high. As has already been pointed out, both must be known within small limits, and be producible at will. Stimulated by these great temperatures, the products of decomposition of the explosives exert an erosive action upon the interior of the chamber and barrel of the gun, and soon injure and ultimately destroy the rifling. It is this, with the effect of temperature on the steel itself, which limits the life of the guns; and it is, again, the chemist's task so to choose his materials for both the fabric of the gun and the explosive charge, that there shall be a minimum of erosion with a maximum of ballistic efficiency.

Nitroglycerine is doubtless the most generally known, by name at least, among the high explosives. It was first manufactured on a large scale by Alfred Nobel, of peace-prize fame. It soon proved to be a treacherous substance to transport in liquid form; but Nobel found that the risk could be greatly reduced if the liquid is absorbed in a silicious earth. Nowadays wood-pulp and other absorbent materials are employed, and constitute what is known as dynamite. But nitroglycerine, if used alone as a bursting charge for shells, has not proved itself to be satisfactory, and has been displaced by such materials as picric acid, and, notably, trinitrotoluene,

which is frequently designated as T.N.T. This substance is distinctly less unstable. It can be melted and poured into shells without danger. Picric acid also may be handled without great risk, when pure. It tends, however, to react upon metals, with the formation of derivatives of picric acid (picrates), which are treacherous, and this circumstance has led to serious explosions. While trinitrotoluene is somewhat less powerful than picric acid, its use is more general at present.

Recently it has been found possible to secure excellent results from an explosive called "amatol," which is made by mixing with T.N.T. a considerable amount (even as high as eighty-five per cent) of ammonium nitrate. This common and apparently innocent laboratory reagent becomes an effective disruptive agent when its decomposition is once started by the explosion of the admixed trinitrotoluene. Aluminum powder, which in burning generates an exceptionally large amount of heat, is also sometimes added, and this mixture is called "ammonal."

The raw materials from which picric acid and trinitrotoluene are made are phenol, or carboic acid, and toluene. Both are constituents of the tar resulting from the heating of soft coals in retorts, to produce illuminating gas and coke. Great quantities of coke are used in the production of iron and steel; but, in the past much of this has been made in what are known as "bee-hive" ovens, from which the volatile products from the heating of the coal, including phenol and toluene, escaped into the air. At the present time, much progress has been made in the construction of closed retorts for the coking of these coals, thus making it possible to collect the volatile products. By this means the available supply of toluene is much increased. Under the best of conditions, however, some toluene, on account of its volatility, passes on with the illuminating gas, and auxiliary plants are now being installed in some of the larger cities to strip this toluene from the gas before it passes to the mains.

Picric acid is chemically known as trinitrophenol. Phenol is more commonly called carboic acid. While phenol is found in coal tar, the amount is not sufficient to provide an adequate supply to meet the demand for picric acid; and to meet the deficiency, it is necessary to resort to the synthetic preparation of carboic acid from benzene (benzol), which is a somewhat more abundant constituent of coal tar. The synthetic processes employed are akin to those which the chemist uses to transform the ill smelling and unsightly coal tar into the varied dye stuffs which add so much to the cheerfulness of life, or into the synthetic drugs upon which physicians rely for the alleviation of pain and for the maintenance of antiseptic conditions in home and hospital.

The handling of both picric acid and trinitrotoluene, while reasonably safe if intelligently done, so far as danger from explosion goes, has other disagreeable features. The operatives gradually absorb the material into the circulatory system, and in time it acts as a poison. The trinitrotoluene eventually affects the liver, and jaundice ensues, with such intensity that the operators often turn a bright yellow. These cases are not infrequently fatal, and all are serious and of long duration, with doubtful final issue. In England thousands of women are engaged in the shell-filling plants, and they have shown great courage and loyalty in taking their share in this work, in the face of inevitable disfigurement, or permanent disablement.

III

But the problem of the explosive shell does not end with the mere selection of a material to fill it. If its mission is to shower the enemy with shrapnel, the chemist must so choose his exploding charge as to give efficiency in force and distribution; if the shell is to destroy barbed-wire entanglements, its fragments upon bursting

must be relatively large and heavy, which means a different shell design and bursting charge. The gas shells, referred to later, also present many peculiar problems, and there are doubtless many more, peculiar to torpedoes and mines.

Among the modern explosives, gunpowder has lost its former prestige. In its development of explosive force it lies between the high explosives, like nitroglycerine, on the one hand, and smokeless powders on the other. Gunpowder fell from its former high estate largely because it gives aid and comfort to the enemy by enabling him to locate the guns of his opponent by the smoke which it produces.

In the search for a smokeless powder, that is, for an explosive which on decomposition would yield only gaseous products, attention was first turned to gun-cotton, or nitrocellulose. Raw cotton may be chemically treated for the removal of nearly all materials except what is chemically known as cellulose. It is similar to starch and sugar in its chemical character, and explosives can be made also from these latter materials, although none are of much importance. The cotton, after such chemical treatment, is like the familiar absorbent cotton. If this is treated with a mixture of nitric and sulphuric acids, it is converted into nitrocellulose, a material which is, incidentally, used in the manufacture of celluloid, in the dressing of patent leather, and in collodion.

Indeed, it has been made a reproach to the chemist, that he has allowed his art, which first brought carbolic acid to the surgeon's aid, and collodion (liquid court-plaster) to protect our wounds, to be turned to the production, from these same materials, of death-dealing explosives. But, as Dr. Baekeland has pointed out, it would be equally logical to condemn the art of printing, because it has been, and may be, used for the dissemination of lies and calumnies.

After washing and drying, which require great care, nitrocellulose is capable of use as an explosive. Curiously, the microscopic structure of the cotton is hardly altered by this treatment. It has the same open texture, and, if ignited, or detonated, the decomposition proceeds through the mass with such rapidity that nitrocellulose, thus prepared, proves to be a high explosive rather than a propellant, and is so used today in considerable quantities. But it has been found that, if nitrocellulose is dissolved in some solvent, or mixed with enough solvent to cause gelatinization, the resulting product, on drying, has the desired properties of a propellant: that is, it decomposes relatively slowly. Still later, it was found that admixtures of nitroglycerine with nitrocellulose gave desirable results, and the smokeless powders of today, known by various trade names, such as cordite, poudre B, etc., are blended mixtures, the composition of which is determined only after the most careful laboratory and ballistic tests. Each type of gun, from the small arm to the largest cannon, requires exact and extensive study. In these investigations, again, the chemist is indispensable.

A smokeless powder, if ignited in the open air, burns relatively slowly. A stick of it may safely be held in the fingers until nearly consumed; but at the high pressure and temperatures within the guns, this combustion proceeds with relatively great velocity. The smokeless powders are usually ignited by a primer, which is frequently a small charge of black gunpowder. Most other explosives are fired by means of fulminates, the most common being mercury fulminate, which is made from mercury, nitric acid, and alcohol. These fulminates explode by friction, or a blow, and produce sufficient heat locally to detonate the explosive charge. The fulminates are sensitive rather than powerful. They demand the greatest caution in both manufacture and subsequent handling. They must explode with unerring accuracy when struck by the exploding mechanism, as is evident in the case of the machine guns used on aeroplanes, the firing mechanism of which is so synchronized

with the revolutions of the driving shaft, that the bullets pass between the blades of the propellers when the latter are revolving rapidly, and the slightest retardation in firing would be attended by fatal results.

IV

It is within the bounds of truth to assert that the changes in both munitions and ammunition which have taken place since the beginning of the war have equaled or exceeded those of preceding centuries. The rapidity of development, and the adaptation of these constantly changing conditions and demands, have been equally marvelous among all the warring nations; and these changes are still going on to an extent which makes assertions of today almost obsolete tomorrow. But in no particular has this been so true as in the gas warfare which has assumed an importance scarcely secondary to the use of explosives and missiles.

The first gas attack was of the so called "drift-gas" type. Chlorine gas was discharged in quantity from the enemy trenches, and was carried by a favoring wind over the allied trenches, with disastrous results. Chlorine is a heavy gas, green in color and exceedingly irritating to the membranes of the air passages, even at great dilution. This gas may be liquefied under high pressure in steel cylinders; and great numbers of these cylinders were placed at intervals of a few feet along the front of the enemy trenches, and pipes laid outside, opening toward the trenches of the allies. The gas was simultaneously discharged from these openings, and with a light wind it held close to the ground. The effect was nothing less than appalling. It is said that, had the enemy realized the full effect of this gas-attack and followed it up, they could have pushed completely through the allied lines. It is probable that they were not themselves adequately protected against the gas, and were uncertain as to what they would find in the gassed area.

This attack, marking, as it did, a new and evil epoch in military affairs, produced first a feeling of incredulity, which, however, soon gave place to the utmost exertions to devise means of protection, and later to devise varied and more vicious materials for offensive use in this relentless form of warfare. Drift-gas attacks, while still employed, have largely given place to gas shells, which are fired from guns or mortars, or used as hand grenades. The shells which have been used contain as much as six pounds of materials which are themselves easily volatile, or are atomized by the bursting of the shell, and thus impregnate the atmosphere around the spots at which they explode. They can, of course, be placed with the same accuracy as a shrapnel or other explosive shell, and such gas shells are now used in great numbers before an attack in force, and are also intermingled with the explosive shells during an attack. Because of the penetration of the gases into dugouts and gun shelters which are practically proof against missiles, positions may be captured and gun crews put out of action after withstanding long periods of bombardment.

Nearly all the materials employed in gas warfare will produce fatal results if inhaled in sufficient concentration, and the aim of the warring chemists is to devise new gases which will pass through the masks in use by the enemy before they can be detected and the troops safeguarded, when such safeguarding is possible. Certain gases have, however, for their more immediate object, the irritation of the eyes (the lachrymatory gases, one part in a million of air being effective), temporarily blinding the victim; others are designed for the irritation of the nose (the "sneeze gases"), making it almost impossible for the fighter to overcome the tendency to throw off his mask; and others again, for the production of burns when in contact

with the flesh, which are of a most distressing character, and, even if they do not cause death, incapacitate the victim for service for a period of months. The last-named gases are likewise toxic and lachrymatory to a high degree. The so called "mustard gas," a compound somewhat similar in character to mustard oil, but far more of an irritant, has proved particularly destructive, and doubtless accounts for many of the casualties in recent attacks. The mustard gas is discharged in liquid form and penetrates ordinary clothing, even if the masks prevent its inhalation. It also saturates the ground, and troops taking shelter in shell holes are often burned by contact with this ground.

It is often true that the harmful effect of the poison gases when inhaled is not immediate, but is the result of a slow interaction between the moisture of the lungs and the chemical employed. One, methyl sulphate, for example, yields wood alcohol, a violent poison, and sulphuric acid. The men are frequently incapacitated hours after a gas attack which at the time appeared to have been without serious result. The physiological effects are usually insidious and cruel. Smoke shells containing "sneeze gas" are sometimes first used, and these are immediately followed by shells containing violently toxic gases. If the men are affected by the "sneeze gas" before the masks are put on, it is very difficult for them to keep them on, because of the continued paroxysms of sneezing.

Chlorine itself is now comparatively seldom used alone, but nearly all the poison gases are compounds containing chlorine, and the ability to supply adequate quantities of this gas, which is obtained by the electrolysis of a solution of table salt, is an important factor in the prosecution of the war. The processes for its production have been well worked out by the electrochemist. It is a question of installation of adequate large-scale apparatus.

The task of the chemist naturally resolves itself into the development of protective and preventive devices (the defensive side), and the devising of new toxic gases (the offensive side). At the time of the first gas attack the allied forces were without any means of protection, since, although some inkling of a possible use of poison gases had been obtained, it was not believed that those provisions of international agreements which were intended to eliminate such practices would be violated.

Only the simplest expedients could be immediately employed. After a number of gas attacks in April and May, 1915, there were few attacks until December, 1915, and in that interval, with incredible rapidity, comparatively efficient masks were devised and manufactured, and these are being constantly perfected. But even at best, they are a serious handicap to the activities of the men, and much of the efficiency of gas warfare comes from the depressing effect of wearing the masks for long periods. This is known as "neutralization" of the opposing infantry force; and even if it constituted only an annoyance, it would be remarkably effective. When, for example, ammunition and supplies have to be brought to the front, there are almost inevitably exposed points, or cross roads, where great confusion of traffic occurs. These spots are frequently discovered by the enemy, and, by planting a few gas shells in the vicinity, the workers are obliged to don their masks, which in these night operations makes confusion worse confounded, and may even cause serious embarrassment in the delivery of needed supplies.

The masks now used are nearly all of the canister type: that is, the inhaled air is drawn in through a canister containing certain materials which will react with, or absorb, the gases before they enter the mask itself. This mask consists of a close fitting fabric, containing usually more or less rubber in its structure, and held in place by elastic straps over the head. The exhaled breath escapes from the mask through a rubber valve which opens only from pressure from the inside. The time allowed

to put on the mask, when slung by a strap from the neck, is under ten seconds. It is carried in a canvas case, and when the forces are within two miles of the front, they are required to wear the outfit in the "alert" position, ready for instant use, night and day.

An important feature which has been the occasion of much scientific study is the eye-piece of the masks, to avoid dimming from the moisture accumulating within. Anti-dimming preparations have been found, and lately, as the result of many experiments, materials devised which reduce this difficulty to a minimum, under ordinary conditions of use.

Great improvements have been made in the effectiveness of the absorbent material used in the canisters, and this, in turn, has increased several fold the general efficiency which it was possible to attain at the time when the manufacture of the masks was first undertaken, and hence to diminish the amount of material to be placed in the canisters. The significance of this will be understood when it is realized that there is a considerable friction to overcome when the inhaled air is drawn through the canister. This was so great in the earlier masks, that it made necessary a suction on the part of the wearer of the mask equal to that required to raise a column of water in a tube to a height of six inches; an effort not incomparable with that made by many asthmatic sufferers to draw air into the lungs. This frictional resistance has been materially lessened by the improvement in the protective materials, and every reduction, however slight, is a great boon to the troops.

The materials used in the canisters are selected to react with gases of an acid character, and with those capable of destruction by oxidation, a process like that generally known as combustion. Much reliance is, however, placed upon the absorptive power toward gases exhibited by many porous substances, notably, high grades of charcoal. The principle is the same as that utilized in the "charcoal filters" sometimes attached to our faucets to clarify water supplies.

Of late a new problem has been presented, because of the use of gases in the form of "smoke clouds," which easily pass through the protective materials contained in the canisters. This has necessitated the addition of another filtering medium, and has necessarily added somewhat to the resistance to be overcome.

How serious this "neutralization" of troops through the continuous wearing of masks may be, is illustrated by the conditions which obtained before one of the recent violent attacks on the Western Front. It has been stated that the enemy fired gas shells (mainly mustard gas) at the rate of two hundred thousand shells per day for four days, each shell probably averaging about five pounds of material. While the gas masks will protect the wearer from the inhalation of this gas, they must have required one or more renewals during this period. This attack was followed by a smoke-cloud attack which necessitated the use of the extension filters, thus subjecting the troops to added labor in breathing, after days of constant use of the mask. The physical strain under such conditions cannot fail to have been severe. It is not, however, to be supposed that the enemy was allowed to spend his time in full comfort.

As a means of detecting the approach of a toxic gas, canaries and white mice are placed in the trenches, as they are peculiarly sensitive to these chemicals and show signs of distress from dilutions which are unnoticed by man, especially when the gases are nearly odorless.

Of the offensive side of this gas war it is obvious that little can properly be made public. There is reason to believe that our American chemists are making valuable contributions in this field.

COLONEL WILLIAM H. WALKER TALKS ON POISON GAS

Former head of Chemical Engineering department at Technology lifts the veil of mystery at last — authoritative interview reprinted from the New York Times

THE lifting of the censorship has permitted the telling of no military story so awe-inspiring, so profoundly affecting as the one here related for the first time in public print. This strips the veil from a hidden page of history just enacted and adds another lustrous chapter to the volume of stupendous American achievements of the last year. It concerns the creation of a thunderbolt, the most terrible known to man; and the holding of it, leashed, over the bowed head of Germany, giving the United States the power to annihilate that reeling nation. So efficacious was this thunderbolt that the mere thought of it was sufficient for the coup de grace.

If the reader will pardon this introduction I will relate the story as it came to me, first hand.

Twenty-six miles from Baltimore, on the edge of the Government's vast Aberdeen ordnance proving grounds, is a three-hundred-acre tract, fenced off even from the comparative publicity of the conventional big guns, guarded from prying eyes along every rod by soldiers with drawn bayonets. Twelve months ago it was a Maryland farm. Today it is the largest poison gas factory on earth. It can produce, probably three or four times over, more mustard gas, phosgene, chlorine, and other noxious fumes than the intensified war output of England, France and Germany combined. It was just completed and ready to function for the \$60,000,000 invested there when the armistice was signed on November 11. Now it lies silent and idle like the great cannon along the Lorraine border, but ready to operate at a moment's notice.

The director of the United States Chemical Warfare Service is Maj.-Gen. William L. Sibert. The commanding officer, Col. William H. Walker and one of his assistants, Lieut.-Col. George Chahoon, took me over the plant and initiated me into its mysteries, explained the processes of production, outlined some of the little-known features of gas warfare, and indicated what an essential element in the prospective allied attack next spring this product was to be. Formerly Colonel Walker was professor of Chemical Engineering at the Massachusetts Institute of Technology.

As we went over this enormous plant, sprinkled over the old farm, each unit well separated from its neighbors to avoid concatenated explosions, Colonel Walker, once the best lecturer at the Boston Technology expounded the theory and the practice, the history and the possible future of the diabolism we were surveying.

"It is not apparent that the Germans started the war with the intention of using poison gas," he said, "for they did not use it until April, 1915, and then despite their boasted efficiency, they did not understand the effectiveness of the fiendish stuff they were using. Had they done so, history might make different reading today. For instance, when they first used gas (it was chlorine with which they started on April 22, 1915), they waited twenty-four hours before following up with a bayonet attack, evidently fearful that the gas had not dissipated. As a matter of fact the gas dissipated within thirty-five or forty minutes after its release, though in that time it annihilated eighty per cent of the Canadians, Turcos and French opposing it. If the Germans had attacked within an hour they would have taken Calais that day. There was nothing to stop them.

"Another thing that makes me think they did not intend using poison gas when they began the war is that they had no proper meteorological charts of Northern France. If they had had these necessary charts they would not have wasted so much time and so much gas as they did waste. It is a fact that the prevailing winds in Northern France are about seventy-five per cent from a southerly or southeasterly direction. This left the Germans only twenty-five per cent of the time in which they could use gas as they did to begin with, relying on the wind to carry it across the line. Later they devised guns and mortars, but if they had begun with these methods and had made gas in sufficient quantity, there can be no doubt that the war would have ended in their favor very early. There is no doubt in my mind that their inability to make gas in sufficient quantity accounts for their halt in their last great drive last summer. Of that later.

"The French and English, as you know, were reluctant to use gas, deeming it inhumanitarian. Our Government suffered from the same indecision in the early months of our part in the war. However, we came to it in time, just as did the French and English. But, although the English finally utilized every available facility they could command in the manufacture of toxic gases, their total production at its highest point never went above an average of thirty tons a day. The best the French could do was much less than this. You can get the whole story in one sentence when I tell you that our American capacity for September and October was on an average of two hundred tons a day. Remember that these figures are not in pounds, as powder figures are usually given, but in tons. And a drop of gas, properly placed, kills or incapacitates."

"What was the German production?" I asked.

"We do not know," replied Colonel Walker, "but from available data and the estimates of military observers on the ground we do not think it was over thirty tons a day. It may have been fifty tons a day, but certainly no more.

"It was last October before the American Government decided to manufacture poison gas on a scale commensurate with the rest of our military preparations. It was November when ground was broken here, so that what you see is the work of less than a twelvemonth."

What I saw was a city of brick kilns, high chimneys, correlated vats in innumerable series, repeated shot towers, miles of railway, miles of elevated pipe lines, machinery of the finest type and the most perfect installation, housed in concrete and sheet iron, built apparently for permanence. It was all only a few miles from Gunpowder Creek, where were concrete piers built in the midst of the once fine duck hunting preserves. Gunpowder Creek runs into Chesapeake Bay, so that vessels loaded with the gases direct from the factory sailed to Havre without a stop. The Government's investment here is \$60,000,000. Elsewhere there has been spent, at various subsidiary plants, about \$12,000,000. Thus all told the United States has spent about \$72,000,000 in the manufacture of toxic gases, practically none of which have any commercial value. The basic elements are salt, sulphur and alcohol, which, broken into component parts and chemically reunited, in some cases by means of heat, in others by means of cold, again by force of gravity, are caused to form the mustard gas, the phosgene and the phosphorus, the chlorine, etc., which have been found efficacious in warfare. For the cold processes vast refrigerators were built. These cover acres. Half a mile away were enormous boilers and hot rooms for fusing. Then curious towers of spindle steel looking like miniature Eiffel Towers, scattered about the grounds, support pipes down which, in a different process, are dropped two chemical elements which thus are forced to fuse by gravity.

Chiefly impressive, once one became accustomed to the thought that all this

ingenious, costly mechanism was built to generate poison for the sole purpose of horribly maiming and frightfully killing, was the orderliness, the immensity, and the stability of the plant. The Bethlehem Steel mills or the Bridgeport Rifle Works are no better built.

"The most remarkable thing about this plant may not be apparent as you look at it," said Colonel Chahoon. "It is the fact that when the Government started to build it there were no existing models for some of the machinery needed. That is where Colonel Walker came in. He literally invented this factory while it was in process of being built. There is nothing like it anywhere else in the world, and it had to be created and operated as we went along. The French and the British both sent their best experts to assist us, but they stayed to get pointers to take back to their own governments. Major Auld, the chief British expert on war gas, said frankly, 'I came to teach, but I stay to learn.'

"Then we had any amount of difficulty, as you may imagine, with labor. In the beginning, when we were only building roads and putting in foundations, it was not so bad, but when we got our first vats to working and it became known among the workmen that the poison was actually being produced our real troubles began.

"One day last summer an incident occurred that will illustrate what we went through. The dust was very deep on the roads, and along one of them came a heavy ox team, which kicked up an enormous cloud of dust. Some carpenters working a piece off in the woods saw it, and some one started the cry, 'A poison tank has burst.' That was enough. Those carpenters started beating it for the railroad two miles away, and as they ran they fast picked up company. By the time they reached the tracks there were two thousand or three thousand laborers in a panic-stricken flight. The block signaler on the railroad saw them coming, set all his blocks, and ran. For three hours that afternoon the entire Pennsylvania system was tied up. In a bunkhouse eight negroes were sleeping. It being a hot summer afternoon, they were devoid of clothing. They heard the false alarm as the van of the flying crowd passed, leaped from their bunks, and ran, naked, down the tracks, reached an empty box car bound for Philadelphia, and which had just escaped the block set, entered it, and were seen no more. From that day to this no one knows what became of them. They didn't send for their clothes or ask for their pay.

"Things like this happening made our job increasingly difficult. Finally we found that no one could or would do the work except soldiers, and the army then detailed to us the necessary allotments. When the armistice was signed we had more than seven thousand men, all drafted American citizens, doing the work for \$30 a month, but without honor or glory. At one time we had over fourteen thousand.

"The work of these boys is beyond praise," said Colonel Walker, who spoke of this phase of the activity with deep, affectionate feeling. "I have been striving to get the army authorities to recognize it by bestowing a Service Medal. I contend that no soldier on the firing line is more entitled to it. These fellows have been here risking their lives, day by day, for a pittance. Nothing but patriotism induced them to do it. And every man knew that every time he went to work he stood in imminent danger of serious injury and of losing his life. Just look at our casualty records."

I did look at the casualty records. I went through the hospitals, two enormous dormitories, perfectly equipped, and permeating the atmosphere of a base hospital in France. I saw boys who had been struck down by the fiendish gases while at work; some with arms and legs and trunks shriveled and scarred as by a horrible fire, some with the deep suppurations still oozing after weeks of careful nursing. In one case a drop of mustard oil had fallen from a conduit pipe under which a soldier

had walked, hitting his shoe. He wiped it off, thinking that made him safe. The next day his flesh began to peel. Now, five weeks later, his foot looks like a charred ember. Another had accidentally kicked over what he thought was an empty pipe. It contained phosphorus, which flew over his face and upper body. Now, weeks later, he is still a mass of horrible burns. Another case (one of the fatalities) was that of an officer who came in from the works to the office. He wore rubber gloves, as they all do when near the gases, but did not know he had been near enough to pick up the mustard oil. He picked up a chair and placed it in front of his desk, intending to seat himself. At that moment the telephone rang and he stepped to the wall to answer. A friend, another officer, entered and took the seat by the desk. Forty-eight hours later the second officer was dead. The first officer had accidentally rubbed mustard oil on the back of the chair. It went through the clothes and into the spine of the second.

In such an atmosphere one shudders and is quickly willing to indorse the recommendation of the commanding officer that a soldier who dutifully performs his duty there has earned a Service Medal fully as much as any soldier who faces the enemy's fire in the field.

In fact, when the figures are all finally published it may appear that no division in France has a higher percentage of casualty than was developed at the Edgewater Arsenal in Baltimore (the official name of the poison gas plant) in the month of August, this year. That was the month of excessive heat when the gases were most volatile and when the weather made the soldiers somewhat relaxed in their vigilance to avoid accident.

During that month the hospitals were filled at the rate of three and one-half per cent of the entire force in the mustard gas plant per day, or one hundred per cent casualty per month.

If that is the casualty which must be endured in making the stuff, can one imagine the casualty of the enemy who receives it? As to what the enemy had in prospect Colonel Walker further enlightened me.

"We had been working for some time," he said, "on a device whereby mustard could be transported in large containers by airplane and released over fortresses of the Metz type, and at last it was perfected, fully sixty days before the armistice was signed. Mustard has been found, for all-round purposes, to be the most effective gas used in warfare, because it advances comparatively easily and also because it is the most difficult to protect against. People used to think prussic acid was terrible. Well, the Germans discarded the use of prussic acid because it was too mild and used mustard gas instead.

"Our idea was to have containers that would hold a ton of mustard gas carried over fortresses like Metz and Coblenz by plane, and released with a time fuse arranged for explosion several hundred feet above the forts. The mustard gas, being heavier than air, would then slowly settle while it also dispersed. A one-ton container could thus be made to account for perhaps an acre or more of territory, and not one living thing, not even a rat, would live through it. The planes were made and successfully demonstrated, the containers were made, and we were turning out the mustard gas in the requisite quantities in September.

"However, there were obstacles besides the physical to overcome. The allied governments were not in favor of such wholesale gas attack by air. England was the first to accede to it, but France hesitated because of her fear of reprisals. Finally, the French government consented, but only with the proviso that the attack would not be made until our line had advanced so that there was no chance of the gas being blown back into French territory and until the allied command was in complete

command of the air so as to insure safety from possible reprisals. These two conditions could not have been met before next spring. It was then that we planned to release the one-ton containers over the German cities which were fortified and so became subject to attack under the laws of war.

"We would have had ready in France for such an attack thousands of tons of mustard gas. There is not the slightest doubt in my mind that we could have wiped out any German city we pleased to single out, and probably several of them, within a few hours of giving the release signal.

"It was not to be. They capitulated and I am sure that a very big factor in that capitulation was the knowledge they certainly possessed of our gas preparations. What we were doing here was known to the German government. They knew that when this plant got into full blast their last hope was gone. They knew that if they had been able to make gas in even half the quantity we could produce here they would have swept over all France long ago. If there was any final argument to help them make up their minds it was our gas production.

"We closed down the day the armistice was signed. We had more than twenty-five hundred tons waiting on the piers ready for shipment. Somehow we had been cheated of our prey, but we were content. We felt sure the gas had done its work even though most of it still lay idle in our dooryard."

Already the Baltimore plant is being dismantled. The machinery is being carefully taken apart, oiled and wrapped and stored away—ready for the next war, should there ever be one. The parts which have come in actual contact with the gas are taken by means of tongs to the fields and buried. The gas itself will perhaps be taken to sea some day and dropped overboard. Being heavier than water, it will settle to the bottom, and if the fishes do not like it they can move elsewhere; the sea is wide. There is nothing else to do with the gas. It has no commercial value and there is enough of it, if properly liberated to kill every human being in the American continent.

Out of the \$72,000,000 expenditure there is one bit of salvage. There is a little fifteen-ton consignment of brombenzylcyanide. This is an intense lacrymator (tear compeller), which has the effect of blinding people, but only for six or eight hours. After the temporary blindness the afflicted recover their normal eyesight. It has been suggested that this brombenzylcyanide might be kept in every police station throughout the country, in little cans with spraying nozzles, for use against mobs. It might be a sort of permanent insurance against any American eruption of the Bolsheviks; a merciful and almost painless but quite effective argument against lawless force.

Also, in the course of the experimental work in the laboratory, the chemist there discovered two new gas combinations, as yet unknown to any one in Europe or Asia, and more effective than phosgene or mustard gas. They were discovered so recently that there was no time to utilize them in this war. They have been stuck back in the safe and locked up—for future reference.—RICHARD BARRY, in the "New York Times."

THE AUXILIARY REPORTS PROGRESS

THE November REVIEW carried the general report of the Auxiliary to October 1. The chronicle of its undertakings since that time records a continuation of its various activities. The records have had particular care and have been frequently used by class secretaries, fraternities, departmental heads and others to locate special groups of men in service. In two weeks' time more than one hundred and fifteen important changes of rank or location were made on the cards. By exchange with the Technology Bureau in Paris and the Alumni Office and Technology it is the endeavor to have this list kept up to date and useful for all Technology men.

Since the signing of the armistice there has not been a day when relatives of our men have not used the office, sometimes to bespeak help in locating men reported as in hospital or missing in action, sometimes to ask that the director of the Technology Bureau at the American University Union in Europe locate a man and report.

Within a few weeks more than a score of men who have been overseas have called at the headquarters in the Rogers Building to tell of their pleasure in the work which the Auxiliary did overseas. "Just when we were most in need of a word of cheer," said one returned lieutenant, a Course IV man, "something would come along from you people back home,—a book, a note, or a parcel of magazines, and we were cheered to know that Tech had not forgotten us."

Through the generosity of Mr. A. F. Bemis, '93, it was possible to respond to Colonel Cole's request that the Auxiliary take over the furnishing of nurses and special supplies to the Student Army Training Corps Hospital. From October 31 to December 23 a total of a hundred and fifty-one (151) patients were admitted to this hospital.

Mrs. Henry P. Talbot and other Technology women established a hostess room for members of the Student Army Training Corps, and Student Navy Training Corps. Many men at the Institute used this room in the few weeks that these student training corps were mobilized.

A special fund was created by the gifts of Augustus Hemenway, Esq., Mrs. Richard Sears and Mrs. Oliver Ames, and this has been used to continue the hospitality to members of the Naval Aviation Detachment,—clubrooms, teas and hospital visiting.

The Workroom has made a notable record. Five trunks were sent to Mr. Gibbs at the Union in Paris in early December, and by special permission the shipment of goods by parcel post has been resumed. It is encouraging to read Mr. Gibbs' letters and to know how welcome these supplies are, and that the parcels and trunks do reach their destination. One overseas man who called assured the secretary that "Tech surely takes better care of her men over there than any other college." Perhaps he was a prejudiced witness, but at least it has been a friendly rivalry to make sure that everything possible was done at home and abroad to reinforce the men who had gone out to fight in the cause of democracy.

A detailed report of the Auxiliary and its sub-committee in the Workroom will appear in the next issue of the REVIEW.

A. L. GEORGE,
Executive Secretary.

THE HONOR ROLL OF TECHNOLOGY DEAD

January 15, 1919

These lists are made up from such data as is available, but if any readers have information which will add to or correct statements in these lists, they will please send the same to Mr's. George at the Rogers Building, Boston.

VIGNAL, PAUL GAUTIER,	'15	Jan.	26, 1915	Killed in action in France.
WEEKS, KENNETH,	'12	June	17, 1915	Killed in action. Foreign Legion in France.
LAMY, HENRY,	'13	Sept.,	1915	Private, 132d Inf. 28th Co. Army of the French Republic, had been wounded in action.
CROSS, CHARLES R., JR.,	'02	Oct.	8, 1915	Ambulance Service.
TILLARD, THOMAS A.,	'09	Dec.	6, 1916	Royal Flying Corps. Killed in an aeroplane accident.
TOVEY, HENRY OLIVER,	'18	March	22, 1917	Ensign, U. S. N., U. S. S. Maine. Lost at sea off Cape Cruse.
LEWIS, HENRY F.,	'05	April	12, 1917	Lt. 110th B'n. Canadian Forces. Wounded and captured in battle of Vimy Ridge. Died same day in Bavarian Field Hospital.
HEUTER, ROYAL ROBBINS,	'06	May	5, 1917	1st Lt. Killed in motor accident before his departure for Plattsburg.
ROBERTSON, HARRY A.,	'10	May	11, 1917	1st Lt. Inf., Canadian Force. Killed in action.
HIGGINS, EDWARD E.,	'86	June	20, 1917	Ensign. Coast Defense of Conn. Died from overwork.
BIGELOW, BRAXTON,	'10	July	23, 1917	Capt. 170th F. A. British Army. Killed in action.
MASON, ERIC WIER,	'14	Aug.	12, 1917	1st Lt. Siege Art., British Army. Died of wounds.
SOUTHER, Henry	'87	Aug.	15, 1917	Asst. Chf. Div. Aviation. Died at Fort Monroe after surgical operation.
COBB, M. E.,	'87	Aug.,	1917	Capt. Q. M. Section, Res. Cps. Accidental discharge of revolver, Boston, Mass.
CLARKE, JAMES P.,	'15	Oct.,	1917	Capt. U. S. A. Died at Camp Bowie, Texas.

Honor Roll of Technology Dead

29

BRECK, FRANCIS PRATT,	'20	Nov.	6, 1917	U. S. N. Died at the U. S. Naval Hospital, Newport, R. I., of measles and pneumonia.
GAILLAC, EMILE B.,	'18	Nov.	7, 1917	Private, 101st Engrs. Died in France of bronchial pneumonia.
EASTMAN, W., JR.,	'18	Nov.	8, 1917	Instr. Army Sch. Mil. Aero. M. I. T. Death by accident.
HOLLIDAY, JOHN H., JR.,	'05	Dec.	23, 1917	1st Lt. Design Section, Gun Div. Ord. Dept. Died in the Georgetown Hospital, Washington, D. C., of pneumonia.
BRYANT, CHAUNCY DAVIS,	'14	Jan.	14, 1918	Private. E Co., 101st Engrs. A. E. F. Died of ptomaine poisoning in France.
SCHROEDER, FRED E.,	'18	Jan.	14, 1918	Private, 23d Rgt. Engrs. Died of disease, Camp Meade, Md.
BEACH, GEORGE ALBERT,	'14	Jan.	22, 1918	Avia. Sect. Signal Corps. A. E. F. Killed in collision.
STEWART, GORDON,	'20	Jan.,	1918	Cadet Pilot, Army Air Ser. A. E. F. Died of spinal meningitis in France.
COUCH, EDWARD S.,	'17	Feb.	6, 1918	2d Lt. B Co., 1st B'n. 22d Inf. Death by accident at Fort Leavenworth, Texas.
JONES, CHARLES E.,	'17	Feb.	15, 1918	Cadet. Avia. Sec. Sig. Cps. Observation Pilot. Killed in an airplane accident in France.
KELLY, JOHN G., JR.,	'14	March	18, 1918	Lt. 10th Engrs. Forestry A. E. F. Death by accident.
NATHAN, T. C.,	'20	March	20, 1918	1st Lt. Avia. Killed in a flying accident at a training camp in Scotland.
MILLIKEN, Alfred S.,	'14	March	30, 1918	2d Lt. D. Co., 6th Engrs. A. E. F. Killed in action.
INGRAHAM, FRANKLIN T.,	'16	April	11, 1918	2d Lt. C. A. C. Died of pneumonia at home.
ELY, DINSMORE,	'18	April	21, 1918	2d Lt. Lafayette Escadrille. Died from injuries received in an airplane accident.
SAWYER, ENOS C.,	'18	April	21, 1918	Btry. A. 101st F. A. Died of wounds received in action.

GREENOUGH, GORDON,	'14	May	1, 1918	Lt. Ord. Dept. Died at the Reed Hospital, Washington, D. C.
MAY, JAMES DE GRIER,	'18	May	9, 1918	Lt. Officers Hdqrs. Kelly Field No. 2, Texas. Killed.
ANGELL, CYRIL M.,	'18	May	14, 1918	1st Lt. 147th Aero Sq., A. E. F. Killed in action. Was pilot in the same machine with W. K. B. Emerson, Jr.
EMERSON, W. K. B., JR.,	'20	May	14, 1918	2d Lt. 15th F. A., A. E. F. Killed in action while acting as an observer in the plane in which Cyril Angell was pilot.
GOULD, PRESCOTT W.,	'18	May	23, 1918	C Co., 102d Machine Gun B'n A. E. F. Killed in action.
ROPER, GEORGE, JR.,	'17	May	27, 1918	Cadet British Royal Flying Corps. Killed in an accident in England.
WYMAN, ALFRED THEODORE,	'16	May	27, 1918	Lt. British Royal Flying Corps. Killed in an accident.
MCDONALD, CHARLES S.,	'99	May,	1918	Red Cross. Died in Paris.
SWAN, LEROY AMOS,	'17	June	19, 1918	2d Lt. Killed at Wilbur Wright Aviation Field, Springfield, Ohio. when airplane collapsed.
PARSONS, ARTHUR M.,	'18	July	3, 1918	Killed by propeller. Received fractured skull at Taliaferro Field, Texas. 2d Lt. Aviation.
SANTOS, ALEXANDER H.,	'19	July	15, 1918	Killed in an airplane accident, Brook Field, San Antonio, Texas. 2d Lt. Instructor in Aviation.
WASGATT, HAROLD CLINTON,	'19	July	19, 1918	Died of wounds received in action. 1st Lt. 59th Inf.
BROWN, MALCOLM COTTON,	'18	July	24, 1918	Lt. Royal Flying Corps, England. Killed in airplane accident.
ROGERS, NEWELL WILLARD,	'14	Aug.	1, 1918	Cadet, Chanute Field, Rantoul, Ill. Killed while flying.
WOOTEN, JAMES C., 2D,	'18	Aug.	3, 1918	2d Lt. 1st Aero Sq. A. E. F. Killed in action, France.
SIMMONS, FRANK RONALD,	'10	Aug.	12, 1918	Capt. Intelligence Service, Paris. Died of pneumonia at Marseilles, France.

PERO, DONALD CARY,	'19	Aug.	24, 1918	Ensign, U. S. N. R. F. C. Killed in a seaplane accident off Fire Island.
ATKINS, ARTHUR K.,	'17	Aug.	1918	2d Lt. 165th Inf. Died of wounds received in action.
HERRICK, WILLIAM F.,	'11	Sept.	15, 1918	1st Lt. Air Service. Killed in an aeroplane accident in France.
KIMBALL, SCOTT P.,	'11	Sept.	28, 1918	Died of pneumonia, Camp Upton, New York.
BATES, ORIC,	'07	Oct.	8, 1918	Died of pneumonia, Camp Zachary Taylor, Ky.
WATERBURY, CHARLES DANN,	'95	Oct.	9, 1918	Died in Walter Reed Military Hospital, Washington, D. C., of bronchial pneumonia. Capt. Q. M. C. Engrs.
SMITH, WINTHROP F.,	'18	Oct.	10, 1918	Died of pneumonia at Bay Shore, Long Island. Ensign U. S. N.
WARE, ERNEST A.,	'09	Oct.	11, 1918	1st Lt. B Co., 506th Engrs. Died of disease at Bordeaux, France.
MORRISON, PHILLIPS G.,	'16	Oct.	12, 1918	Died of pneumonia at Aberdeen Proving Grounds. Capt. Ord.
STEPHENS, ALBERT LESLIE,	'06	Oct.	12, 1918	Lt. Engrs. Died at Camp Humphreys, Va., of pneumonia.
MILLER, ERLBERT TALMADGE,	'14	Oct.	13, 1918	2d Lt. Constr. Div., Avia. Killed in a collision between a street car and an automobile in which he was riding at St. Paul, Minn.
GUETHING, THEODORE H.,	'15	Oct.	15, 1918	1st Lt. Ord. Died at Pica-tinny Arsenal, Dover, N. J., of pneumonia.
UHLINGER, JAMES PHILIP,	'16	Oct.	16, 1918	Sig. Cps. Avia. Died of pneumonia at Camp Meade Md.
ALEXANDER, E. PORTER,	'14	Oct.	22, 1918	1st Lt. Hdqrs. Co. 509th Engrs. Serv. B'n A. E. F. Died of disease.
TIERNEY, HAROLD JOSEPH,	'17	Oct.	22, 1918	Lt. Camp Vail, Little Silver, N. J. Died at Camp Vail of pneumonia.

BROWNLEE, MALCOLM B., JR.,	'11	Oct.	26, 1918	Pvt. 313th M. G. B'n A. E. F. Died of disease, Base Hosp., France, on Oct. 26, 1918.
SPRAGUE, WILLIAM G.,	'16	Oct.	26, 1918	Ensign, U. S. N. R. F. C. Killed in a landing accident at Ile Tudy, Finistere. Won Croix de Guerre for attacking and sinking an enemy submarine.
ALTHOUSE, GEORGE NATHAN,	'15	Oct.	, 1918	1st Lt. H Co., 315th Inf. Died in hospital of wounds received in action.
RIDEOUT, PERCY A.,	'11	Oct.,	1918	2d Lt. Engrs. 30th. Killed in action.
GARNSEY, ARLO E.,	'19	Oct.,	1918	Cadet A. S. S. C. Died of disease in hospital, Brest, France.
McKENNEY, KARL CUSHING,	'12	Oct.	30, 1918	Capt. C. A. C. A. E. F. Died of bronco-pneumonia, overseas.
ERVAY, ERVAY BRONAUGH,	'16	Nov.	1, 1918	2d Lt. 21st Inf. Died in Washington, D. C. of influenza while on special duty.
*HANDY, WILLIAM R., S. A. T. C.,	'20	Nov.	1, 1918	S. A. T. C. at M. I. T. Died of pneumonia.
ATKINSON, HENRY M., JR.,	'17	Nov.	2, 1918	Capt. A Btry. 71st Art. C. A. C. Died of pneumonia at Angers, France.
CHIDSEY, HALMER C.,	'20	Nov.	3, 1918	Candidate, C. A. C. Sch. Fort Monroe, Va. Died of pneumonia.
PAINE, ALBERT I., S. A. T. C.,	'22	Nov.	3, 1918	S. A. T. C. at M. I. T. Died of pneumonia.
CHADWICK, JAMES B., JR.,	'14	Nov.	4, 1918	1st Lt. 337th Tank Corps. Died of pneumonia while sailing for Europe.
GREENE, JOHN B., S. A. T. C.,	'22	Nov.	4, 1918	S. A. T. C. at M. I. T. Died of pneumonia.
*DOLLBAUM, M. P., S. A. T. C.,	'21	Nov.	7, 1918	S. A. T. C. at M. I. T. Died of pneumonia.
HOMER, JOSEPH WARREN, JR.,	'19	Nov.	9, 1918	Ensign, U. S. N. R. F. C. Died of pneumonia in London.
HONEYMAN, BRUCE R.,	'06	Nov.	9, 1918	Capt. A Co., 313th Engrs. Died of disease, A. E. F.

*Died while awaiting induction.

BASCOM, EDGAR D.,	'15 Nov.,	1918	2d Lt. B Co., 101st Engrs. A. E. F. Killed in action.
GRIFFIN, RONALD B., S. A. T. C.,	'21 Nov.	14, 1918	S. A. T. C., M. I. T. Died of pneumonia.
TUTEIN, CHESTER R.,	'18 Nov.	17, 1918	Aviation. Killed in airplane accident in France.
COOK, H. M., JR., S. N. T. C.,	'22 Dec.	17, 1918	S. N. T. C. at M. I. T. Died of pneumonia.
CURRY, DONALD, S. N. T. C.,	'21 Dec.	17, 1918	S. N. T. C. at M. I. T. Died of bronchial pneumonia.
JONES, GRANVILLE R.,	'07 Dec.	22, 1918	Capt. Sanitary Engr. Died of pneumonia at Columbus, Ga.

DECORATED FOR BRAVERY

Men who have won medals for bravery, or otherwise cited
January 15, 1919

ANGELL, C. M.,	'18 1st Lt. Air Service	Received Croix de Guerre. Killed in fall of plane, May 14, 1918.
BELCHER, DONALD,	'16 Driver Am.	Won Croix de Guerre.
BIGELOW, EDMUND C. S.,	'20 Red Cross	Received Croix de Guerre, May 31, 1918.
BROOKS, ARTHUR RAYMOND	'17 2d Lt. Air Service.	Awarded the Distinguished Service Cross by General Pershing for gallantry in an air battle, September 14, 1918.
COLLINS, ARTHUR EDGAR G.,	'14 Lt. Royal Engrs. B. E. F.	Recommended for Military Cross, for bravery near Havrincourt, Nov. 30, 1917.
DERBY, HENRY S.,	'19 Corp. 101st F. A.	Cited by General Edwards for bravery and especially meritorious service in ac- tion against the enemy in May, 1918.
EMERSON, W. K. B., JR.,	'20 2d Lt. F. A.	Formerly in the Ambulance Service. Received French War Cross, January, 1918. Killed in airplane accident, May 14, 1918, in France while serving as an artillery observer with a French Escadrille.
FALLON, NUGENT,	'06 Lt. U. S. N. R. F. C.	Recommended for the Distinguished Service Cross for gallantry in assisting a wounded companion to land safely, by the British Govt. on March 12, 1918.
FELAND, LOGAN,	'92 Lt.-Col. Marine Cps.	Awarded the Distinguished Service Cross for gallantry at Bois de Belleau, June, 1918.
GUNN, SELSKAR M.,	'05 Capt. Red Cross	Made a Knight of the Legion of Honor, January 2, 1919.

JOHNSTON, NORWOOD P.,	'19 Ambulance Service	Awarded the Croix de Guerre in 1917. Now in School of Military Aeronautics, Cornell Univ., Ithaca, N. Y.
KENNEY, GEORGE C.,	'11 1st Lt. Air Service	Decorated for heroism in action near Jametz, France, October 9, 1918.
KINGSBURY, CHESTER L.,	'18 Corp. 101st Engrs.	Won Croix de Guerre, March, 1918, for bravery in action.
LEAVELL, JOHN H.,	'07 Capt. 316th Engrs.	Received the Distinguished Service Cross for extraordinary heroism at Audenarde, Belgium, Nov. 1, 1918.
LOWELL, GUY,	'94 Major Red Cross	Italian Commission, Received Italian Military Medal, March, 1918. "Officer of the Crown of Italy."
MACKAY, GEORGE LEWIS,	'14 Major Engr. Senior Grade Engrs.	Received Croix de Guerre. Missing in action April 17, 1918, while blowing up an enemy trench.
MACKENZIE, JOHN D.,	'11 Lt. 185th Cape Breton Highlanders B. E. F.	Awarded the Military Cross for "Gallantry. Lead 'D' Co. after its C. O. had become a casualty at Amiens" August, 1918.
MACLEOD, NORMAN D.,	'14 Major F. A.	Awarded Distinguished Service Cross for extraordinary heroism in action at Marcheville, France, Sept. 26 '18.
MCRAE, DONALD M.,	'16 Major 79th Inf.	Awarded French Legion of Honor Cross and was recommended five times for the British Military Cross, which he received in London while recovering from a hand-grenade wound.
MENDENHALL, FRED D.,	'14 1st Lt. 7th Engrs.	Awarded the Distinguished Service Cross for extraordinary heroism near Cunel, France, October, 1918.
MURPHY, WILLIAM H.,	'12 2d Lt. 104th Inf.	Received Croix de Guerre in March, 1918.
PAGE, KENNETH B.,	'20 Pvt. Med. Cps.	Won Croix de Guerre, March, 1918. Received Distinguished Service Cross in July, 1918.

PAYNE, KARL C.,	'19 Lt. Air Service	Reported missing in action. Nov. 5, 1918. Given the Distinguished Service Cross for exceptional daring and bravery in action on Sept. 16, 1918. Was a prisoner at Karlsruhe, from which he escaped.
POLAND, W. B.,	'90 Belgian Relief	Received Cross of Legion of Honor from the President of France.
RIDEOUT, PERCY A.,	'11 2d Lt. Engrs.	Killed in action. Awarded the Distinguished Service Cross for extraordinary bravery in action at Clerges, France, October 4, 1918.
SPRAGUE, WILLIAM G.,	'16 Ensign U. S. N. R. F. C.	Won Croix de Guerre which was presented at his grave. Killed in a landing accident after attacking an enemy submarine off Ile Tudy, Finistere, Oct. 26, 1918.
STEWART, ALAN E.,	'14 Capt. Canadian Art. B. E. F.	Received Military Cross.
STUART, KIMBERLY,	'19 Ensign U. S. N. R. F. C. March, 1917.	Ambulance Service when received Croix de Guerre, Now with U. S. Naval Aviation, Foreign Service.
TAYLOR, PAUL H.,	'14 1st Lt. Ord. Dept.	His work in Mobile Repair Dept. has won high official praise for executive work, Sept., 1918.
TYLER, JOHN C.,	'17 1st Lt. Air Service	Received certificate of citation for courageousness in downing enemy plane. Either missing or killed in action. No further confirmation as yet.
WALLIS, JAMES E., JR.,	'17 Capt. Air Service	Received Distinguished Service Cross for exceptional bravery in region of Metz, Sept. 13, 1918.
WARNER, DONALD D.,	'18 1st Lt. Air Service	Awarded the Distinguished Service Cross, Oct. 29, 1918. Wounded in action.
WHELTON, FRANCIS R.,	'21 2d Lt. Infantry	Won Croix de Guerre for bravery in action, July 7, 1918.

WHITE, JAMES M.,	'14	Lt. Ambulance	Won Croix de Guerre. Now with 116th Engrs. A. E. F.
WINSLOW, C. E. A.,	'98	Major Red Cross	Commission to Russia. Received medal for distinguished public service, January, 1918. Returned home.
WOOTEN, JAMES C.,	'18	2d Lt. Air Service	Received the Cross of the Legion of Honor. Killed in action, August 3, 1918.

These lists are made up from such data as is available, but if any readers have information which will add to or correct our records, will they please send it to Mrs. George at the Rogers Building, Boston.

JAMES PHINNEY MUNROE

By George Perry Morris

(Reprinted from the "Journal of Education," December, 1918)

WHEN, in 1882, Mr. Munroe, at the age of twenty, graduated from the Massachusetts Institute of Technology, Boston, he did not even imagine that in 1918 he would be a resident of Washington in a post of high importance in education and civics. He had been born and brought up in historic Lexington, where his family had been as prominently identified with the community as the Adams's with the town of Quincy. Traditions of the Revolutionary War were part of his education, for was not he a neighbor of the renowned Munroe's Tavern, and did not he live in a "house by the side of the road" along which the British marched out to Concord and along which they returned beaten? However, it was not past or coming wars or hopes of public office that the young Tech graduate then thought about. He had won a technical training that he knew would prove and has since proved useful to him as a successful manufacturer and business man, and what the newer and less traditional form of education had done for him he wished to make accessible to other youth. Hence, followed a chapter of personal devotion and official responsibility to the Institute of Technology quite extraordinary when its length and the variety of its forms are considered. He was secretary of the Faculty for seven years. He edited the school's monthly journal for nine years. Thrice was he chosen president of the Alumni Association. In 1897 he was added to the Corporation which governs the institution, and he has been its secretary since 1909. He has seen Presidents Walker and Pritchett go and Presidents Pritchett and MacLaurin come upon the scene. Few if any men knew as well as he the history of the evolution of the great school that now adorns the banks of the Charles and that rivals Harvard University as one of the sights of Cambridge—an institution that since the war began has been as much of a national institution as West Point or Annapolis, and that, formally and informally, openly and secretly, has done much to match Uncle Sam against Germany's combination of militarism and applied science.

Mr. Munroe early in his career disclosed yet another side of his character that now is getting fullest expression. Lexington has civic as well as military traditions. Its old families have worked the town meeting form of democracy for generations. The men it rears go forth trained to do things politically and as live units in a democracy. Consequently, you find that this Lexington man has served on the town school committee, that he has been chairman of the State Commission for the Blind, that he has shared conspicuously in planning for and carrying out civic uplift plans in Boston, and that he has been an adviser and worker in many of its important civic agencies, like the Chamber of Commerce and the City Club.

Here the story might close, if it were all, and the record would be such as most men would envy. But it is not all. Years ago Mr. Munroe became the propagandist for a more utilitarian, democratic and, as he believed, imperatively needed form of education than was being given in American educational institutions, of whatever grade and whether for lads or girls, men or women. For years he was, and still is for that matter, the key personality around which a group of educators of Greater Boston gathered under the name of the Social Education Society. He instantaneously came to the aid of the North Bennet Street Industrial School in Boston, when,

under the patronage of Mrs. Quincy Shaw, of ever redolent memory, it began to show local educators and visitors from afar what could be done for youth of a congested and immigrant settled area by a form of education that developed the creative powers of the pupil. Quite inevitably he became the president of the National Society for the Promotion of Industrial Education when it was formed in 1910; for his writings and his speeches had given him a national reputation as a reasoned and persuasive champion of vocational education, and his experience in business life and in academic administration insured against any doctrinaire use of high office for ends that might seem desirable but at the same time be inexpedient.

The next important chapter in Mr. Munroe's career opened when the national demand began to come for a type of education such as he had been calling for insistently. He saw to it that Congress did not lack for facts and for arguments that he had accumulated, and when at last the nation was committed by Congress and the President to federal expenditure for co-operative action with the states in giving vocational education, he no doubt was one of the happiest men in the country. What the conservative New England of his birth still looked upon with skepticism he had found supported by men of the south and of the west as well as those of the interior.

But some one had to execute the new law, lay the foundations broad and deep and wisely for using national funds in unprecedented ways to create a more efficiently educated and more adequately equipped population of producers. No one realized this more than the Boston manufacturer, who also early had elected to be an educational pioneer; and hence when, as a representative of the business men of the country, he was nominated to be a member of the Federal Board of Education, he accepted, and forsook Boston for a time and came to Washington to serve the nation. Where he works it is sometimes difficult to say, so often have war conditions and expanding functions of the boards forced movings from place to place. But you can catch him at the renowned Cosmos Club if you are canny. Since the war opened a work of vast importance, namely, the rehabilitation and re-education work among soldiers and sailors mutilated in any way, at home and abroad, has been added to the educational service of the Vocational Board, of which Mr. Munroe is now the vice-chairman and the responsible working head. One cannot watch him quietly going about his present task and sharing in the vast war for a new sort of world with its notions of education much transformed (and along lines harmonizing with the ideas and ideals steadfastly championed by him) without thinking anew of the saying that "America spells opportunity." There was a time, not so many years ago either, when he would have died happy if he could have got New England to doing what the republic and the nations are now being forced to do. He must occasionally let his well known powers as a wit and ironist play privately, if not publicly, around the heads of persons who once smiled upon him with the contempt of the classicist for the modernist

SAMUEL MORSE FELTON

Who at the head of 12,000 railroad engineers reorganized the shattered railroad systems of France

WHEN war was declared on Germany it was understood, of course, that American troops would be sent to France. Once in France, they would have to be armed, fed and clothed by their own Government. At that time the French railroads were in poor condition. Tracks were badly worn, locomotives needed repairs, cars were fast going to pieces. Three years of war, with nearly every man on the battle line, had almost broken down France's transportation facilities.

While volunteers were being enlisted and trained in this country, preparations were rapidly made to put the railroads of France on a sound operating basis. The Government asked Samuel Morse Felton to organize and equip a large body of men for that purpose. Mr. Felton had done similar work for the American army early in the troubles with Mexico. Pershing, waiting on the Texan frontier for orders to cross the Rio Grande and move southward, had scores of locomotives and hundreds of cars ready for his troops.

The engines and cars had been mobilized by Mr. Felton, who had also concentrated along the Mexican border huge supplies of ties, rails and bridge material. Men to run the trains carrying soldiers and to rebuild the railroads and bridges had been organized under Mr. Felton's direction. The invasion did not occur, but the machinery for it was ready. His brilliant work in Texas caused the selection of Mr. Felton for the greater work to be done in France.

It might almost be said that Mr. Felton was brought up behind a locomotive. His father, also Samuel Morse Felton, a Harvard man and a civil engineer by profession, was superintendent of the Fitchburg railroad in 1843—which was ten years before the son was born. It was he who planned and directed the secret passage of Abraham Lincoln from Harrisburg to Washington in 1861, being at the time president of the Wilmington & Baltimore railroad.

The son, having graduated from the Massachusetts Institute of Technology with the class of 1873, was a railroad rodman at the age of twenty-five. In the years that followed he served many transportation companies and became famous as the physician of those that were ailing and had been given up by other good doctors.

"I have been called in to a number of pretty hard cases," he once remarked to the writer of this article.

The fine work that he did in Mexico, during the days of President Diaz, caused J. P. Morgan, the elder, to place him in charge of the debilitated Chicago Great Western, which line he soon had sitting up in bed and cheerfully and hopefully conversing.

He has treated the Pan Handle, the Boston & Maine, the Erie and the Alton, besides a score of smaller corporations. Often he diagnosticates two or three cases while treating the one whose life he is saving. Other doctors, on such occasions, follow his directions and administer his medicines.

Mr. Felton was president of the Chicago Great Western when asked to organize a force for the rehabilitation of the railroads in France. He had, in his plans for Pershing's invasion of Mexico, obtained the names and locations of thousands of

locomotive engineers, firemen, conductors, brakemen, track workers, machinists, bridge builders, telegraph operators, station agents and bookkeepers.

Five construction regiments were soon organized. Two more have since been recruited. These regiments were sent to France that the railroads there might be ready for the coming of the United States army. New rails were put down and bridges were repaired. The colonel of each regiment was an engineer officer from the army.

Lieutenant colonels of the five regiments had been chief engineers of large American railroads; captains, thirty of them, had been engineers of maintenance of way; lieutenants had been supervisors or road-masters and the sergeants and corporals had been track and bridge foremen, while the privates were experienced track laborers.

Shop and operating regiments also were organized. These were composed of trained men. The officers had been general managers, division superintendents, trainmasters, master mechanics, chief dispatcher and so on of railroads in this country.

The makeup of each company in the operating regiments included twelve locomotive engineers, sixteen brakemen, eight conductors, eight switchmen, twelve telegraph operators, three clerks and stenographers, seven signal maintainers, twelve car inspectors and repairers, fourteen track foremen, as well as draftsmen, surveyors, storekeepers, cooks, pipe-fitters, yard foremen, machinists, blacksmiths, boilermakers, carpenters and wagoners.

It was Mr. Felton's theory—and he carried it out in every particular—that the men he organized and sent to France should be competent to operate and maintain the railroads of that country, from the laying of track and the building of bridges to the running of trains and the transportation on time of troops, weapons, shells and food.

If a locomotive leaks or collapses, Mr. Felton's experts can repair it. His mechanics are competent to take over any railroad machine shop in Europe and conduct it efficiently. The best conductors and engineers are running troop, food and munition trains.

Altogether there are thirty-eight regiments and battalions of standard-gauge American railroad men in the army. There are also men to operate and maintain the narrow-gauge track—hundreds of miles of it—that goes almost into the trenches themselves, over which shells and so forth are carried.

In the autumn of 1863 Confederate soldiers destroyed a bridge over the Rapahannock and twenty-two miles of railroad between Bull Run and Brandy Station. Federal engineers rebuilt the bridge, which was six hundred and twenty-five feet long and thirty-five feet high in nineteen working hours.

General Black's engineers are prepared to duplicate that achievement, and in an area under shell fire, if necessary. And Mr. Felton's force, classed as engineers in the military service, would have loaded trains waiting on the banks to go over.

(Copyright, 1918, by James B. Morrow.)

NEWS FROM THE TECH BUREAU

Interesting facts about the Alumni "Over There"

GEORGE C. GIBBS, '00, has just sent in the information available at the Technology Bureau in Paris up to December 11. This includes the lists of the men in the Paris hospitals, those decorated and promoted, those present at the Technology dinners and the University Union.

Lieut. Herbert W. Barrett, '18, is still in Hospital No. 3, American Red Cross, Paris. He is recovering from a wound in the leg. He expects to leave the hospital soon.

Last word received from James Sidney Marine, '17, and Donald D. Warner, '18, was that they were waiting in hospitals to be sent to the States. We understand both are doing very well.

Sergt. Robert W. Scott, '20, came back from the hospital several weeks ago, recovering from a wound in the arm.

Lieut. Richard B. Catton, '13, is still in Hospital No. 3, Paris. He has been suffering with mastoiditis; he is somewhat better.

Lieut. Dudley Bell, '17, was in town for a few days, having entirely recovered from his wounds. He left Paris, returning to the States.

Recently Lieut. Arthur R. Brooks, '17, and Capt. James E. Wallis, '17, were decorated with the D. S. C. by General Pershing.

On November 2 one of our regular monthly Tech dinners was held at the University Union. There were no speakers at that dinner. The following men were present: Herbert Wellcome, '18; George C. Gibbs, '00; E. E. Dawson, Jr., '14; John R. Parker, '18; Tenney L. Davis, '13; Guy Hill, '06; E. C. Lowe, '05; Donald E. Woodbridge, '16; R. B. Haynes, '13; William W. Dodge, Jr., '16; Paul H. Buxton, '16; Lucas E. Schoonmaker, '17; Douglas H. McMurtrie, '15; William A. Hall, '88; Albert W. Buck, '13.

Plans were made at that time for an informal Christmas dinner which was held on December 21.

On November 11, the day the armistice was signed, a number of Technology men were in Paris, and there was a small Technology push which enjoyed the festivities of the day, and also were the guests of Charles W. Eaton, for lunch and dinner. Among those present were Charles W. Eaton, '85; George C. Gibbs, '00; Robert M. Allen, '16; Elbert D. Green, '10; Douglas R. Buchanan, '18; Donald DesGranges, '14; Henry Miller Blank, '18. Since the armistice was signed, it seems that there have been more Technology men visiting the Bureau than any time in its history. This is accounted for by the fact that many men are going to Nice on permission and also stopping in Paris before leaving for the States.

The Bureau is always crowded and there are always more applicants for rooms at the Union than it can accommodate, and the Technology Bureau is supplying extra beds for those who cannot find any place to stay. The supplies from the War Service Auxiliary are very much in demand. A splendid supply has been received and the men find them very desirable and there is a continued call for these supplies.

We had a little Christmas party on December 21 for the Technology men who could get to Paris. There was an informal open house at 5 P.M., with an old-fashioned Christmas dinner at 7 P.M. A great many availed themselves of the opportunity.

"TECH SHOW"

A Regular and (Irregular) A. E. F. Tech Christmas Party

CAFE CARDINAL

Corner Boulevard des Italiens and Rue de Richelieu

"OPEN HOUSE"

at 5 P. M.

Saturday, December 21st

Old Fashioned Christmas Dinner

at 7 P. M.

"ON DIT":

There will be a Real Egg Nogg

Also - Turkey, and Plum Pudding

Also - A little Jazz Music

**Next to Going Home, come and enjoy the Christmas
Party with those who cannot**

15 Frs FOR DINNER

IF POSSIBLE NOTIFY:

GIBBS, TECHNOLOGY BUREAU

American University Union

8, Rue de Richelieu, PARIS

On December 5 one of our regular monthly dinners was held at the University Union; twenty-seven men were present, and half a dozen other men came in during the dinner. Many of the men were at the dinner for the first time and all enjoyed themselves very much. The following men were present: Richard O. Lowengard, '17; James E. Wallis, '17; Mark C. Kinney, '11; Donald C. Barton, '11; Dugald C. Jackson (Faculty), Almerin M. Gowing, '15; Herbert W. Barrett, '19; E. C. Lowe, '05; A. S. True, '14; Dugald C. Jackson, Jr., '19; R. S. Rowlett, '16; George S. Stevens, '14; Edward L. Moreland, '07; James W. Doon, '17; Dudley E. Bell, '17; Paul H. Buxton, '16; William W. Dodge, '16; C. P. Kerr, '11; Douglas R. Buchanan, '18; Alexander G. MacAlister, '18; John H. Babbitt, '17; O. S. True, '20; J. C. Bollenbacher, '09; H. H. Burkhardt, '16; Charles W. Loomis, '16; Edward H. Sargent, '07.

At this dinner all the men were presented with a very attractive brass briquet or a cigarette lighter which is a present this year from the Technology Bureau to all the men who are in France in the A. E. F.

Capt. W. P. Watson, '14, has been promoted to the rank of major.—Capt. N. D. MacLeod, '14, has been promoted to the rank of major.—Capt. J. R. Ramsbottom, '17, has been promoted to the rank of major.—Lieut. Eugene L. MacDonald, '13, has been promoted to the rank of captain.—Lieut. Charles J. Davis, Jr., '16, has been promoted to the rank of captain.—Lieut. R. W. Logan, '17, has been promoted to the rank of captain.—2d Lieut. Donald R. Dixon, '14, has been promoted to 1st lieutenant.—2d Lieut. W. W. Eaton, '17, has been promoted to 1st lieutenant.—2d Lieut. Arthur R. Brooks, '17, has been promoted to 1st lieutenant.—Sergt. Joseph L. Brodil, '16, has been promoted to 2d lieutenant.—Frederick B. Barns, '15, has been promoted to 2d lieutenant.—Sergt. Lawrence L. Travis, '15, has been promoted to 2d lieutenant.—Charles Rogers Lord '16, has been promoted to 2d lieutenant.

MERCHANT MARINE SCHOOLS TO CONTINUE

Henry Howard '89 in charge

ALTHOUGH the aviation schools at Technology either have closed, or will close in the near future, the schools for training men for the merchant marine will remain open at least until the first of March. The deck officers' school is in charge of Dean Burton, who is also supervisor of instruction of all the schools of this sort throughout the country, while the engineers' school is under the charge of Professor Edward Miller. The recruiting for the merchant marine is under the charge of Henry Howard, '98. The continuance of these schools is made imperative by the decision of the Shipping Board to man all merchant ships with merchant mariners and not with naval men.

"The Merchant Mariner" tells of this decision as follows: "Naval manning of new cargo ships, which grew out of war necessities, is in principle a thing of the past, the United States Shipping Board has officially announced. In an important statement dealing with the future policy of the board under this head, issued for publication on December 17, these points were made clear: That all merchant ships hereafter coming out will be given merchant crews, that this change is due to the discontinuance of naval regulation of the movements of merchant shipping, resulting from the return of peace conditions at sea. The board's announcement clears up some obscurities that have existed of late in the public mind as to who was to man the new Merchant Marine."

UNDERGRADUATE ACTIVITIES

Homer V. Howes

TECHNOLOGY undergraduates have had their taste of army life. Although they have not fought and bled, they have passed through a stormy siege of studying and working under very difficult circumstances, and most of them have survived.

There were two opinions of the S. A. T. C. experiment among the undergraduates, the first of which openly criticized every feature. The time allowed for preparation was too short; the military duties always interfered with the academic (in fact, the Faculty would probably declare war upon the Commandant); the study rooms were close, and entirely incompatible with concentration upon dry technical subjects; even the food was poor; and at night the call of the sentries every half hour kept a man awake, while the moon shone in his face through the uncurtained windows between the calls.

The other, and less popular, opinion was that the scheme was feasible. The students could do their work if they set their minds to it, and really tried to make the best of a difficult situation; the military duties, while stringent, did not take any more time than was usually wasted by the students in normal times; the study rooms were admittedly unfavorable, but not entirely impossible for good work; while the food and sleeping quarters might have been a whole lot worse.

The former of these two opinions was expressed by far the greater number of men, and with such spirit, the S. A. T. C. will go down in the annals of undergraduate life as a dismal failure.

Despite the overworked condition of the students, activities were not entirely buried. This was especially true among the members of the naval unit. A football team was formed by the sailors which put up a very scrappy fight in the three games which it played, although only one, that with New Hampshire State College, resulted in a victory. Exeter, and the Young Men's Christian Association training college at Springfield both downed the Technology men, but only by small margins.

The naval unit also formed an orchestra, and later used this orchestra in a minstrel show, at which cider, smokes, and vaudeville acts were served, one feature sandwiched between another.

The army branch was not nearly so active, and the best it could do was to stage one dance just before disbanding.

There were two bright events, however, during the three months of army life which showed that down deep the old Technology spirit was still burning. The first of these was the convocation called by the Young Men's Christian Association in order to raise funds for the United War Workers' Drive. The men gathered in the hall immediately after mess, and led by Song Leader Netzer, they soon worked themselves into a very generous and open-pocketed condition. Mr. Brewer Eddy gave one of his remarkably vivid speeches, telling of the work and suffering of the boys "over there," and then the call was made for pledges. One company strove to outpledge the other with the result that over \$18,600 was contributed. Company K, of the army, nosed ahead with \$2004, with H a close second, subscribing \$2000, both companies averaging \$20 a head.

The other bright event was the all-Technology smoker which was attended by over 1600 students. Dr. Maclaurin first addressed the crowd, and told the men that the experience in the S. A. T. C. would never be regretted. He then gave out

the Cabot medals for best physical development the year before, and introduced A. L. Bemis, '93, who gave out the much talked of prizes for the best reports on summer work in the shipyards. Dean Burton and Coach Kanaly followed with speeches. Song Leader Beaugart of the U. S. S. "Pennsylvania," then led the men in popular songs followed by "Take Me Back to Tech," and "The Stein Song." Cider, doughnuts and ice cream were served.

The spirit aroused at this smoker, remained with the students until they were disbanded, and they went on their Christmas vacation with the feeling that Tech might not be such a bad place to attend this term after all.

DEMOBILIZING OUR TEMPORARY BUILDINGS

What to do with all the Institute's war-time structures

As soon as it became evident that the S. A. T. C. and the Naval Aviation Units were to be demobilized at Technology, as soon as was physically possible after peace was declared, the pressing question arose of what was to be done with the buildings that had been erected for the S. A. T. C., on some of which the paint was hardly dry. The problem is now being solved. The receiving ship of the Naval Aviation detachment, known in civil circles as the Tech Block, has been vacated. The Institute is at work converting the rooms back into bowling alleys and billiard halls and is selling the furnishings of the shower baths and canteen. By the end of January the Walker Memorial will be vacated by the existing flights of the detachment and will be fitted at once with the gymnasium and room furnishings that will make it what it was built for, the all-Technology clubhouse. The many wooden buildings will probably be for sale as old lumber. The army airdrome is to be fitted at once for the purpose for which it was really erected, namely, an aerodynamic laboratory. The big wind tunnel is already installed here and other apparatus will be added to complete the equipment. The kitchen and mess hall, in which one thousand can sit at meals together, will be retained, and will be used for the cafeteria, those desiring more substantial food being able to find it in the grill room at the Walker Memorial. There are fifteen to twenty other wooden structures, the navy clubhouse, navy administration, navy dispensary and hospital, with engine sheds, observation lofts and the like, together with the new barracks, which have not as yet been completely filled. The Young Men's Christian Association hut on the site of the future Pratt School of Naval Architecture, will probably remain devoted to its present uses for a time, while the Technology writing room, in the little activities building on Massachusetts Avenue, which has proved a quiet place for correspondence, will probably be retained. In the interior of the Institute buildings numerous partitions, galleries and other special constructions are already being displaced.

When the S. N. T. C. demobilizes there will be returned to the department of civil engineering its library, museum and drawing rooms that have been used by the army and lately the navy for dormitories and offices.

SELSKAR GUNN, '04 DECORATED

PROFESSOR SELSKAR GUNN, '04, of the Department of Biology at Technology has been made Chevalier of the Legion of Honor by the French Republic.

Selskar Michael Gunn, who left this country in 1917 with the Rockefeller Foundation Unit, as associate member of the Commission for the Prevention of Tuberculosis in France, and who has been made a knight of the Legion of Honor, was born in London, England, May 23, 1883, and was graduated from the Kensington Park College in 1900.

Following his graduation he sailed to America and took up his studies at the Massachusetts Institute of Technology, from where he was graduated with the degree of S. B. in 1905. Since that time he has served as health officer for the State Board of Health in this Commonwealth and is the author of many papers and books pertaining to hygiene.

During 1905-1906 he was bacteriologist at the Boston Biochemical laboratory, and during the next three years was first assistant bacteriologist of the State Board of Health in Iowa. During his stay in that state he also lectured on hygiene in the University of Iowa. He then moved to Orange, N. J., where he served as health officer, and met his future wife, Miss Clara J. Coffin.

After marrying in 1911, he was associated with several Massachusetts universities, health papers and the State Board of Health. As assistant professor of sanitary biology and public health, he served at Technology and was made associate professor in 1914. During 1912 and 1914 he was assistant professor of biology at Simmons College and served as secretary of the American Public Health Association. He also was managing editor of the American Journal of Public Health during 1912-1914 and in the latter year became editor. He filled this position until he left for France.

All during his career in this country, he was active in promoting the good health of the people and served on many important delegations at various conventions of health officers. He served as assistant secretary-general of the fifteenth international congress on hygiene and demography, which was held in Washington, D. C., in 1912. He also was a member of the American Statics Association, New England Water Works Association, American Association of Labor and the Society of American Bacteriologists.

TO REBUILD FRANCE AND BELGIUM

Swain, '77 and Main, '76, go across on important errand

THE French government has invited the engineering societies of the United States to send delegates to France to aid in restoring devastated regions there and possibly in Belgium.

As a result of this invitation four engineering societies are to send representatives to advise with the French engineers in the great problems of reconstruction. Needless to say the men to go will be some of the best known in the United States.

The American Society of Civil Engineers is to send six representatives; there will be one each from the society of Mechanical Engineers, the American Institute of Electrical Engineers and the American Society of Mining Engineers.

At least two of the men to go are from Boston. They are Prof. George F. Swain and Charles T. Main, a mill engineer of national reputation. The party of engineers will sail from New York on the steamship "Espagne" on December 5th.

So far as the Boston men are aware it is planned to have the American engineers visit the devastated regions and then confer with the French engineers as to what is best in the plans for the restoration of the war-torn territory. The party expects to be gone for about six weeks, but may remain longer.

CHARLES THOMAS MAIN is a resident of Winchester, with business offices at 201 Devonshire Street, Boston. He was born in Marblehead, February 16, 1856, son of Thomas and Cordelia (Reed) Main. He was graduated from Technology in 1876 and was an assistant instructor there until 1879, when he became connected with the Manchester Mills, of which he soon became superintendent and engineer. For a time he was also with the Pacific Mills and later took up private engineering practice, designing many important industrial plants.

He is a trustee of many widely known organizations, a member of the corporation of Technology, member of the American Society of Mechanical Engineers, American Society of Civil Engineers, Boston Society of Civil Engineers, National Association of Cotton Manufacturers and New England Water Works Association. He is a member of the Exchange, Engineers', Technology Clubs and of the Engineers' Club of New York.

PROFESSOR GEORGE FILLMORE SWAIN was born in San Francisco, March 2, 1857, son of Robert Bunker and Clara Ann (Fillmore) Swain. He received his degree of B.S. from the institute in 1877; studied at the Royal Polytechnic School in Berlin, 1877-80, and secured the degree LL.D. from the University of New York in 1907.

He was employed as hydraulic expert by the 10th United States Census; was Hayward professor at M. I. T., 1887-09; and professor of civil engineering and applied science at Harvard University since September 1, 1909.

He has been consulting engineer of the Massachusetts Railroad Commission and was chairman of that commission. He served with the Boston Transit Commission as well as on a number of other commissions, and has been the engineer for many important structures.

Professor Swain is a fellow of the American Academy of Arts and Sciences, president of the American Society of Civil Engineers, member of American Society

of Mechanical Engineers, American Institute of Consulting Engineers, Boston Society of Civil Engineers, of which he has been president; Institute of Civil Engineers of Great Britain, American Railway Engineering Association, Association of Superintendents of Bridges and Buildings, New England Water Works Association, New England Railroad Club, American Forestry Association, Society for the Promotion of Engineering Education and the American Society for Testing Materials.

AT BIRTHPLACE OF LA FAYETTE

M. I. T. workroom asks fund to aid refugees gathered there

As special permission has recently been granted by the French High Commission to the Workroom of the M. I. T. War Service Auxiliary to send new garments for French refugees to the Chateau La Fayette at Chavaniac (Haute Loire), a most urgent appeal is made by the Workroom Committee, of which Mrs. Edward Cunningham is chairman and Mrs. W. T. Sedgwick director, for funds for the purchase of materials.

This chateau is the birthplace of La Fayette and has been bought with American money on behalf of the French Heroes' La Fayette Memorial Fund, to become after the peace a permanent pilgrimage-museum similar to Mount Vernon. At present it is a home for refugee children under the care of Madame Charles Le Verrier of Paris and Miss Clara Greenleaf Perry of Boston, both known to many Bostonians.

The ladies of the Technology Workroom will gladly give time and energy to the making of such garments as are needed, but they have no money for materials, except an emergency donation of \$500 from Mrs. Everett Morss. Hence, this special appeal is made for funds. Checks sent to Mrs. Robert P. Bigelow (Caroline C. Bigelow) will be duly acknowledged. Gifts received in response to a previous appeal for materials for garments for the hospitals of the Allies are gratefully acknowledged.

SOPHOMORES MUST DRILL

Military training made compulsory for two years —
Junior Freshmen begin

DRILL at the Institute will be compulsory for two years, whether the men expressed the desire to join the R. O. T. C. or not. The sophomores, freshmen and junior freshmen will drill as separate units, and the last two named will drill together on Saturdays. The junior freshmen began yesterday, under Colonel Hamilton, who will be connected with them alone. He said that probably two companies of them would be formed.

It is not known as yet when the sophomores and freshmen will start drilling but it will probably not be for another week. As contemplated, the R. O. T. C. will take four years, with probably a commission in the reserves at the end of that period. This will not interfere with the compulsory drill, however. The men who said that they wished to join the R. O. T. C. at the time of registration will probably be able to change their desire, if they so wish.

THE BEMIS SHIPYARD PRIZES AWARDED

Announcement made at big S. A. T. C. smoker

A COLLEGE spirit that has not been in evidence at Technology since the United States entered the war pervaded the large mess hall of the S. A. T. C. on November 29, at the largest "smoker" ever held at the Institute. It was an initial and probably final mass gathering of the Technology S. A. T. C., who, with the general student body present, numbered over 1700.

The gathering was for the purpose of instilling college spirit and beginning a "reconstruction" of college life lost to the student body with the introduction of the S. A. T. C. and its consequential military atmosphere.

President Richard C. Maclaurin, for the second time since being president of Technology, appeared before an undergraduate body. In his brief talk he congratulated the members of the S. A. T. C. in volunteering their services at a time they seemed to be much needed.

"I hope you have enjoyed the last few weeks in the S. A. T. C. more than you did the first few weeks," said Dr. Maclaurin. "On the whole it was a good experience. On the whole you did the right thing in volunteering your services. That is something you will always cherish when you can look back upon it. The S. A. T. C. is about to be demobilized. In a few weeks Technology and other colleges will return to normal academic life.

"I want to take this opportunity to speak of the college life. In any college everything depends upon the spirit that pervades the place. This warlike experience has cut the colleges asunder. There is now opportunity for every one to join in dispelling the unpleasantness that the students have been experiencing because of the military life."

At the close of his talk Dr. Maclaurin awarded the Cabot medals to the students having shown the greatest physical development. The first prize was awarded to Lawrence Harold Banks, the second to Harold Frederick Stowe, the third to Z. Giddons, Jr., the fourth to Richard Wellington Smith, and the fifth to Julius Gordon.

Dr. Maclaurin then introduced Alfred T. Bemis, '93, of the Bemis Paper Box Company, who offered three groups of prizes to Technology students in connection with the ship building work during the summer months. The first group of prizes were for the best stories on shipyard experiences, considered from the technical standpoint; the second group for the best suggestions for co-operation between the Institute and the shipyards; and the third for the best work accomplished in the shipyards.

After explaining the object of offering these prizes, Mr. Bemis announced the winners. In the first group the first prize was won by George A. Wilson, the second by Leland W. Gilliatt, the third by Harold F. Stowe, the fourth by George F. Devere and the fifth by James P. Ford. In the second group only two prizes were awarded. The first prize was won by George F. Gokey and the second prize by Leland W. Gilliatt. In the third group the winners were: First prize, Carl W. Phelps; second prize, Henry F. Levy; third prize, Leland W. Gilliatt; fourth prize, Harold T. Denison; fifth prize, F. J. Byrne, Jr., and sixth prize, George E. Rowe.

Dean A. E. Burton, who spoke next, said that the "smoker" was more like Technology than anything he had witnessed for some time. "How fortunate you are over all Technology men in the opportunities you have had," said Dean Burton

"The benefit you have received through the S. A. T. C. is one of the things you are lucky to have. That will come to you perhaps ten years from now. It will come to you at your reunions."

The dean spoke of the wonderful opportunities the men had in working in the shipyards with the regular working men. He said that it gave them the working-man's viewpoint, which was such an advantage to an engineer.

"It is not going to be all pleasure getting out of the S. A. T. C.," said Dean Burton. "We've got the same old Faculty, and while they are going to be just and kind to you, the Institute is going to be just as hard to get through as it used to be."

The dean emphasized the fact that with the discontinuance of the military routine students would again be left to self-discipline. He encouraged the students to enter into athletics and other college life activities, but not to indulge in them to the extent of failing in their main object of attending the Institute.

Frank A. Kanaly, athletic coach at Technology, spoke of the sports at the institute, urged the students to come out for sports and urged the student body to support the athletes with just such "smokers" as was being held.

The United States naval aviation band played several pieces at the opening of the program, and accompanied the singing later on in the evening. Several of the students added to the evening's entertainment with songs. The chorus singing was led by Henri P. Beaugard, Young Men's Christian Association song leader of the United States Steamship "Pennsylvania." A collation was served.

BUILDINGS OF S. A. T. C. GO TO PROVOST GUARD

Northeastern Department of Army Stations 750 Men on
Institute Grounds — Mess Hall and "Y" Hut
Closed to Students

OCCUPANCY BEGINS JANUARY 6

THE entire set of buildings which was constructed for the use of the Student Army Training Corps at the Institute has been turned over for an indefinite period to the Northeastern Department of the United States Army for the use of the provost guard detailed to this district, according to an announcement made by Horace S. Ford, bursar of the Institute. The contract made for the new occupants includes the use of the "Y" hut and the mess hall, and these will be closed to students after Monday, January 6. Although no definite information has been released concerning the men who will be stationed here, it is believed that they are to come from three companies, now at Camp Devens.

About seven hundred and fifty men are to be located here, and they will need the entire barracks for living quarters. They will be served "chow" in the mess hall and will use the "Y" hut as a recreation building. Mr. Palmquist states, however, that until Monday the hut will continue as a student resort and that the book exchange established there will continue until this date. Until January 6, second hand books may be obtained there and after this time the business will be taken over as usual by the Technology Christian Association.

THE PERPLEXITY OF THE S. A. T. C.

Would they be demobilized or not? — the changing focus during last December

THE uncertainty under which everybody at the Institute lived, teachers and students alike, as to whether the S. A. T. C. plan was to continue or whether the men were to be demobilized at once, is best illustrated by newspaper extracts of that month, quoted in the present tense, without change. The first is from "The Tech" of December 16:

"There has been a great deal of conjecture as to whether the S. A. T. C. would break up, now that peace is imminent, and there will be no further use to train men as officers. The army unit will continue as usual, and the men in it need not fear an immediate discharge. A special order which has been received from headquarters follows. It begins with a telegram from the Committee of Education:

" 'November 13, 1918.

" 'Massachusetts Institute of Technology, Cambridge, Mass.

" 'S. A. T. C. will continue military and academic work without interruption, regardless of armistice. Plans have been prepared for the future of the S. A. T. C. under conditions brought about by the armistice, which will be sent to you and the college authorities as soon as authorized. Inform college authorities of this wire.

" ' (Signed) Committee Education Rees.'

"In addition to this the change in conditions has undoubtedly cancelled all chances of going to officers' training camps, so that every one would do well to consider this a straight educational scheme as they have always been told it was. Heretofore the academic work has been very unsatisfactory. This was partly due to conditions, but also partly due to the students' fault. They must now look on this as the serious end of their life here, and strive to make good. The Faculty will doubtless be lenient in regard to past work, but there is no reason why they should be in regard to the future. The option of sending men to Camp Devens is probably at an end, and it is presumed that the one thing that can be done to men who fail when it is clearly due to their own neglect is to give them dishonorable discharges.

"The war is the greatest event in history. Every member of the S. A. T. C. is entitled to the highest credit. He is not merely a drafted man who is too late to get into action, but he has the proud distinction of having gotten into service, even if not to the front, and having been a member of the United States army, ready for any call to any duty during the war, whereas except for his voluntary action he would never have been in the army. This heritage is worth holding on to as a real honor, and a man will be very foolish to risk dishonorable discharge now by unworthy conduct."

The next phase is best shown, after some weeks of rumor and uncertainty in which the Institute morale was visibly dropping, by an article by John Ritchie, Jr., in the "Christian Science Monitor" of November 29:

"Demobilization for the S. A. T. C. at the Institute is set for Wednesday, December 4. Everybody appears to be pleased excepting perhaps Bursar Ford, who will have on his hands the settlement with the United States War Department,

with which the Institute, as in the case with the other colleges in the land, has only a verbal agreement.

"The opinion of the Faculty was voiced a few days ago by one of them, who said that the present arrangements could not end too soon for him, while incidentally the students allow that now they may perhaps get time for the studies to which the military regime has obliged them to give only second place. The Faculty of the Institute decided at a recent meeting to return the academic part of the curriculum to its old standing, S. A. T. C. or no S. A. T. C., and this has been waiting only for the determination of some of the details before announcement.

"At the moment the Government is paying for the board, lodgings and tuition of twelve hundred or fourteen hundred students, who will later be thrown on their own resources, probably with the beginning of the second term. In a good many colleges it is the apprehension that many of the students will discontinue their work with the cessation of the S. A. T. C. The feeling at the Institute does not go far in this direction. It is true that most of the young men are either students who are in their sophomore or junior year and will remain, or else of the rating of freshmen and were competent to enter as such at the beginning of the term. The effort to secure other students from the high schools for whom, at the request of the War Department the entrance requirements were lowered, was not particularly successful and instead of the couple of hundred that the Government expected would enter there were only a few. The student body will therefore be much the same as in past years, and is likely to be quite as able to meet the financial requirements. The presence of the barracks may help for a term or two to house them.

"With reference to the structures that Technology has erected at a cost of about \$400,000, it will be necessary to make the best arrangement possible with the Government. When the Naval Aviation Detachment is graduated, which will be in January, it will relieve the Walker Memorial for the purposes for which it was built, namely an all-Technology clubhouse and social center. As soon as possible the work will be taken up of finishing it for these uses. The great hall, however, will no longer be used for a dining-room and meals served will be in the smaller restaurants. For the student and general use the great mess hall of the S. A. T. C. will be continued in service, having an excellent equipment for the work.

"A quick census of the students reveals the fact that the loss among the S. A. T. C. will not exceed a couple of hundred, this figure including those who had doubts about being able to finance themselves and those not heard from. In addition the Institute has announced its intention to accept a sub-freshman class to enter on December 30. Last year this class numbered one hundred and ten, and was limited by the facilities in the chemical laboratories. It should be even larger this year and will bring the total registration of Institute students to about normal, when it is figured that there is no senior class, these young men having received their degrees and gone into service a couple of months ago."

And after December 4:

"Those students who expected demobilization at Technology to begin yesterday were disappointed, for the date of the mustering out of the first group has been deferred till Monday next. Meanwhile a physical examination of the young men is under way. The students have been divided into three groups which will be taken up in this order: First, those young men, two hundred and fifty or more, the state of whose finances or other reasons will not permit them to continue at the Institute; second, the group of men, twelve hundred or more in number, who intend to continue their studies at Technology; third, a small group of men who wish to remain in the service as long as possible."

And so it went, from the middle of November to the end of December when the last of the S. N. T. C. was demobilized, a period of heart-breaking uncertainty, restlessness and slackness for every one at Technology, from the oldest professor to the youngest student soldier or sailor. And by Christmas all Technology was breathing a sigh of relief and of anticipation for the safe, secure, experienced ways of the coming term.

NOW COLONEL COLE

Edwin T. Cole receives his promotion

WITH a shiny eagle on each shoulder and five stripes on his sleeve, the once Major and now Colonel Cole has just right to be happy. Colonel Cole has followed a military career throughout his life. He graduated from the United States Military Academy in 1889 and received his commission as a second lieutenant in the 8th Infantry the same year. In 1896 he became first lieutenant in the 6th Infantry and in 1898 served in the Spanish-American War. In 1899 he became captain 11th Infantry and served in the Philippine Campaigns. In 1910 he was transferred to the 6th and later to the 8th Infantry. In 1911 he became a major and retired from active service on account of disability in line of duty and commenced his work as professor of Military Science and Tactics at the Institute.

The order which announces his promotion follows:

WAR DEPARTMENT

Washington, November 19, 1918.

Special Orders

No. 271-P

EXTRACT

By direction of the President the advancement to the grade of colonel on the retired list of the army, to date from July 9, 1918, of Maj. Edwin T. Cole, United States Army, retired, under a provision of Section 24 of an Act of Congress approved June 3, 1916, amended by an Act of Congress approved July 9, 1918, is announced.

By order of the Secretary of War:

PEYTON C. MARCH,
General Chief of Staff.

OFFICIAL:

P. C. HARRIS,

The Adjutant-General.

THE S. P. E. E. MEETS AT TECHNOLOGY

In conference with British Educational Mission

At the Massachusetts Institute of Technology of the afternoon of December 6 the program of the joint meeting of the Society for the Promotion of Engineering Education and the British Educational Mission was disarranged on account of the unexpected departure on Saturday of the mission. For that reason the English speakers scheduled for Saturday's session were given right of way.

In his brief address of welcome, President Maclaurin alluded to the fitness of place and time. The river Charles, to be seen through the windows of the auditorium, bears the name of an English king who was the founder of the Royal Society, ever the patron and supporter of education, while the city in which the meeting is called to order is striving to preserve the traditions of its English ancestor on the Cam. The time for the discussion is at the end of a war which has shown as never before the importance of applied science. President Maclaurin did not doubt but that the problems to be discussed would be the same for all lands, questions ever new yet always old, and among them, how to deepen and broaden the training of engineers.

John F. Hayford, president of the society, with a confirmation of Dr. Maclaurin's words of welcome, called attention to the forced changes of the program and presented the first of the English speakers, Dr. Arthur E. Shipley, vice-chancellor of the University of Cambridge. He apologized for the abrupt departure of Sir Henry Jones, and brought the war close to his audience by stating that of the three sons of his fellow delegate, one was lost in battle, one recently liberated from a German prison, and the third, going to India, could be seen by his father only by immediate sailing for England.

Out of four thousand in the student body at Cambridge, England, he said, there are today a scant four hundred. Americans do not realize what has happened in England, in the enormous war losses. English universities are now ready for students. He proposed that one of the ways in which the United States can be very helpful is by sending the young men who must be retained overseas for courses longer or shorter at the universities of England or France. English colleges have arranged short courses for just such purposes. Then the men, should the circumstances demand, could be at their posts within twenty-four or forty-eight hours. This would be a means of uncommon strength in cementing the relationships between the two countries.

The Rev. Edward Mewburn Walker presented contrasted views of engineering education; on the one hand with nothing introduced which the young man did not expect to use in his business or profession, and on the other, the view which he emphasized, that a broad education is necessary when the engineer is to meet men. He presented the case for the humanities, noted how in the Rhodes scholarship tests stress is laid on the quality of leadership. He pictured the engineer of the future in the consideration of labor difficulties, being the possible arbitrator, because he is in contact with both factors. Unless he is a man of broad education his real chance in life is gone.

Sir Henry Miers gave a short review of his impressions of America. He spoke much about the benefit to a technical institution that would come from an academic college in its vicinity, an association that tended to the more liberal and broader education in the former. He noted the tendency now developing in England for the technical

student to have the requirement of previous experience before entering the institution, and deprecated efforts to sandwich in trades with schoolwork.

Sir Henry dwelt on the desire of the English universities to exchange students with those of this country and to improve schools of research. Oxford and Manchester have already established doctorates of philosophy, based on two or three years of research work, in which studies at other colleges may be credited. He spoke briefly of the efforts in England that have been made to get the universities more directly in touch with the industries, and concluded with an outline of the broadest possible grounding for the mining engineer, for he travels far and wide, is dependent absolutely on his own knowledge, and is the most likely to come into touch with influences political and social.

The second day's sessions of the meeting of the American Society for the Promotion of Engineering Education were held at the Rogers Building on Saturday. During the morning addresses were delivered by Dr. C. R. Mann of the Massachusetts Institute of Technology and Gen. William M. Black. The latter characterized the army as the most efficient means of making the most out of men. He noted how the combatant engineer must be ready to solve any kind of engineering problem and the demands upon him make it necessary for him to be an all-round engineer. He upheld the sentiment that engineering studies should be carried along the lines of military training. The fact, he said, that "a man who falls behind never can make up the work of that day induces an ability to concentrate on the work in hand." In this, he feels, lies the strength of the graduate of West Point.

This position was vigorously combated by Prof. J. Olsen, who asserted that "civilians will not invent by the clock, and valuable as is the military system for West Point, it does not conduce to originality. Civilian colleges are designed to develop specialists, not all-round engineers exclusively, and there is some danger when men undertake to do what they are not trained to do."

General Black's view was supported by Dr. Pupin of Columbia, who felt that in this country "we are very weak in disciplinary methods," and educational work will not improve until they are introduced to some extent.

The last half-day was devoted to discussion, one group with Dr. Maclaurin for chairman considering especially the proposed Government aid in establishing research stations. This is embodied in the Smith-Howard bill now before Congress. The suggestion is that land grant colleges and state colleges be the institutions in which such stations may be established. The S. P. E. E. put itself on record by a vote to express the approval of the organization for the general idea. Discussion was largely on how to avoid political influences in the distribution of the funds. Dr. Maclaurin would be in favor of a broader bill, Dr. Pupin was a believer in leaving the matter to the National Research Council. Dean Raymond of Iowa backed Dr. Pupin, while Dr. W. S. Franklin of M. I. T. thought that the research career ought to be made profitable to the student. It was the opinion of all that the present is the proper moment in which to undertake changes in engineering educational methods.

The general session of the afternoon of Saturday revolved about three great fundamentals. The first of these, voiced by Dr. Mann, was the amazing speed and success of military training, and the second by the same speaker, that there must be a patriotism of peace to succeed the patriotism of war. It is important to have men do as much for the country now and in the future as in the immediate past. The third enunciated was that theory and practice must go hand in hand, but theory must keep within understandable range of practice.

TECHNOLOGY OVER THE TOP IN DRIVE

Final war drive figures show total of \$19,097

THE final figures issued for the United War Work drive at the Institute show a total of \$19,097, which is somewhat over the estimated total given out when the campaign was officially closed. Of this amount the six members of the campaign committee gave \$145 and the remainder is divided as follows: Students, \$16,931; Faculty, \$1998; employees, \$143, and club of Chinese students, \$25. Included among the subscribers are 1324 students and 107 members of the Faculty.

Regarding the subscriptions given at the Institute, the following letter from Miss Ellen F. Pendleton, chairman of the Massachusetts student division of the United War Work campaign, has been received by Mr. Palmquist.

"The Massachusetts student division of the United War Work campaign extend to you, your committee and the student body of Technology their hearty appreciation for the splendid work accomplished during the recent campaign. The way the students have risen to this opportunity for sacrificial giving has thrilled us all with pride.

Cordially yours,

ELLEN FITZ PENDLETON, Chairman.

Technology officially closed its United War Work drive on November 19, with a total of \$18,661 to its credit. This amount, although it fell somewhat short of the \$20,000 mark, surpassed the largest estimates which had been primarily set at \$10,000 and later raised to \$15,000. Of all the organizations contributing towards this total, the army unit holds first place with a grand total of \$13,447, the navy comes second with a total of \$2227, the Faculty third with \$1850 and the civilians at the Institute, fourth with \$1137.

The largest per cent of the entire subscription from Technology was raised on the opening night of the campaign, when a mass meeting held in the mess hall started the enthusiasm. The work of the committees organized in the various army and navy companies was responsible for the increasing amounts, and credit is also due Mr. Palmquist of the "Y" hut who devoted considerable time to helping along the drive.

It was the original aim to have every company in the army and navy units subscribe one hundred per cent, but this was later found to be impossible. With the official closing of the results, however, it was found that the average subscription per man in the army unit was about \$18, while in the navy it approximated \$11. The payments on the pledges will be made to the bursar and those who so desire may pay cash in full. Others are allowed to pay fifty per cent of their pledge on December 2, twenty-five per cent on January 18 and the remainder on March 1.

LEGION OF HONOR FOR TECH MEN

AMONG the Americans awarded the Legion of Honor by the French government for valuable war-time services are Mason S. Chace, '94, of Dorchester, Mass., and Cass Gilbert, '80, of New York, both architects.

TECHNOLOGY HELPS TO CELEBRATE THE ARMISTICE

The new buildings once more a civic centre for Cambridge,
as in the Liberty Loan Drive in the Spring

With ten thousand marchers, representing the allied nations, Cambridge had the biggest parade in its history in honor of Victory Day.

Cheered by thousands of people, the parade wound through the streets to the Massachusetts Institute of Technology, where President Richard T. Maclaurin awaited them. They were the orators of the day. Fifty thousand people, massed in about the Technology building, made it almost impossible for the parade to approach.

President Maclaurin, in his victory address, said:

"There has been nothing in history comparable in dramatic intensity with our experiences during the last month. Almost every day great battles have been fought, cities captured; kings have fallen and empires tottered—and all this has led on to the splendid climax that we celebrate today.

"Peace with victory—victory over injustice, inhumanity, falsehood and all the countless evils associated in our minds with autocracy and militarism.

"The great drama has moved forward as if to the inevitable crack of doom, and if we shall use the language of our fathers, we might describe what has happened in the old phraseology:

" 'And God said, I am tired of kings.'

"In the hour of victory we shall surely not forget all that we owe to that splendid band of young men that have gone forth to represent us in the great fight. They have gone by the thousands from the halls of learning that now surround us, and there are countless others like them—whether college men or not—who have given a new cause for pride in the citizenship of America.

"By their care and preparation, their high purpose, their sense of comradeship and their indomitable spirit they have given an object lesson to those at home, as well as to those abroad, of what is the real safeguard of democracy.

PICTURES OF TECH WAR HEROES

A FEATURE of the exhibition of Lieutenant Farre's paintings of aerial warfare at Horticultural Hall was a group of photographs of Technology men killed in the air service. Of the seventy Technology men killed in the war twenty-five were aviators.

The picture riveting greatest attention is that of William G. Sprague, class of 1916. He won the Croix de Guerre and a citation by Vice-Admiral Aubrey for destroying an enemy submarine which had attacked a convoy which he was protecting. On returning from that feat he was killed by an accident at his landing stage.

Stewart Gordon of Brookline, and T. C. Nathan of Newton, both of the class of 1920, died abroad. Cyril M. Angell, '18, of Abington, was pilot of a machine on which another Technology man was observer, W. K. B. Emerson, of New York. They were killed in action at the same time.

FEDERAL AID FOR ENGINEERING RESEARCH

Dr. Maclaurin fighting for the Smith-Howard bill

PRESIDENT MACLAURIN of the Institute has recently accepted the chairmanship of the national committee for the support of the Smith-Howard bill. This bill is intended to insure support by federal aid for scientific research in each state. It involves a small amount the first year (\$15,000 per state), but this seems right, for it lessens the danger from what is usually, but improperly, called politics.

Under the influence of the United States Research Council, aided and supported by the Engineering Foundation, industrial scientific research work is just entering upon an extensive campaign, resulting from the progress and phenomenal results of the world war. In addition to a strong active committee, comprising the heads of leading industrial laboratories, and others prominently identified with scientific methods of developing American industries, an advisory committee has been formed to back the movement.

This already comprises the following gentlemen: Elihu Root, Theodore N. Vail, president of the American Telephone and Telegraph Company; Dr. Henry S. Pritchett, president of the Carnegie Foundation for the Advancement of Teaching; Edwin Wilbur Rice, Jr., president of the General Electric Company; George Eastman, president of the Eastman Kodak Company; Pierre S. du Pont, president of the E. I. du Pont de Nemours Powder Company; A. W. Mellon, founder of the Mellon Institute for Industrial Research; Judge E. H. Gary, president of the United States Steel Corporation; Cleveland H. Dodge of the Phelps-Dodge Corporation, and Ambrose Swasey of the Warner-Swasey Company.

The nation is fortunate to have the aid of men whose experience and standing are so certain to command public recognition of the claims of scientific and industrial research work.

Science is in the air, keen competition is in prospect, and the industries are more favorably inclined than ever before to the widespread use of research methods. Their greatest leaders, moreover, are unanimous in their appreciation of the necessity of promoting research for the sake of advancing knowledge, as well as for immediate commercial advantages.

"Federal support of engineering and scientific research in American colleges has interested me for several years," says Dr. W. R. Whitney of the research laboratory of the General Electric Company. "I want to aid in its development. I think I can see better than most people about how we stand and what we need. Any attempt to advance the stand of scientific work of the country should include all the generally productive sciences.

"Any original worker in research will appreciate how hard it is for men who have the natural gift of investigation to obtain that support and encouragement which would yield to the country the greatest return for their work. Talented investigators have been forced to combine valuable research work with executive or routine university duties and the editorship of journals. It ought to be possible for this country to support gifted researchers with just that natural amount of teaching which their development and the need for passing along to others their new work dictate.

"For our young men we must make our colleges as serviceable as any in the world. In order to complete his course or to acquire some experience in scientific experimental work, the student must not be forced to go abroad. We must arrange for the devel-

opment, in widely separated parts of the country, of scientific specialists like those for whom many European cities have been famed.

"In foreign countries the research work of the teachers and their coterie of students rapidly advanced the industrial activities and broadened the horizon of the people. We ought to do as well here. Our colleges have always been forced to the limit in teaching the elements to large numbers of students, and there were no funds or teachers available for advanced scientific or research work. Many of those who became teachers because of their interest in scientific truth were soon prevented by this circumstance from developing those natural abilities which they may have had. Heretofore American genius or originality has too often been exposed in the Patent Office as devoid of experience and knowledge, or it has been forced to the ground after vainly trying to get aloft through advanced study and experiment and has had to devote ten hours a day to teaching elementary matters to large classes. The disadvantage of this system has long been recognized. The method of federal support has been well tested in Europe. Those men who rapidly developed ability in special scientific lines were freed from much of the work which less gifted men could do as well, and opportunity was given to them to carry on advanced research work and to develop at the same time the spirit of investigation in the minds of many of the abler students.

THE LAST OF THE FOUNDERS

Member of the first corporation passes on

ONE of Boston's personal landmarks passed when Dr. Samuel Abbott Green breathed his last at Hotel Lenox, Thursday. His eighty-eight years encompassed much more of service than falls to the usual lot of man. More than one generation knew him as a real force in the life and affairs of this city. In his time he really accomplished the work of several men.

He was the last member of his Harvard class, that of 1851, as he was the last survivor of the board of incorporators of the Massachusetts Institute of Technology, which board came into existence in 1861.

Dr. Green possessed unusual executive ability and it was this notable trait that caused him to lay hold on so many tasks almost any one of which would have been deemed sufficient to have occupied the time of the man of average parts. His activities in affairs, as related to clubs, boards, and public functions began early in life and continued almost to the very last. He lived to see nearly all of his friends and associates of his more active years pass from the scenes of their life work.

Prof. Edward E. Bugbee, '00, of the Mining Department of the Institute has been granted a leave of absence to accept the position of assistant director of education for the S. A. T. C. in five southern states with headquarters at Raleigh, N. C. He will cover the states of Virginia, North Carolina, South Carolina, Georgia and Florida.

NEARLY A RECORD REGISTRATION

Even without a senior class the Institute is crowded for room and instructors — over 1900 students

ALTHOUGH there is no senior class at the Institute this year, indications grow that Technology's total enrolment for the second term will not be much below that of the pre-war days. For these excellent prospects there are a number of reasons. In the first place, the students of engineering schools like Technology had it made clear to them, perhaps to a greater degree than did the students of the purely arts colleges, that the plain duty of men being trained for special service to the country was to remain in college as long as possible. As a result most of Technology's former students stayed at the Institute, joined the S. A. T. C. and are still in college. Second, a large number of men who were sent to Technology for special training and who had no intention of staying after the war emergency passed liked the education they were receiving so well that they have determined to continue it. Third, another sub-freshman class, consisting of one hundred or more qualified high school seniors, was admitted to the Institute at the beginning of the new term. All these factors have helped make it possible for the Institute to announce by the middle of February that, with registration still in progress, more than nineteen hundred men have already enrolled in the various courses.

It is to be remembered that there is no senior class, the men who would have comprised it having by continuous study through two summers covered their work and received their degrees. They were wanted for war service of one kind or another, and are already dispersed, six months or more ahead of the regular time. The two hundred and fifty men that this class should normally include would have made the registration on a par with normal years, but even without them it is expected that enrolment will at least equal previous figures.

There is more or less gossip about one or more units of the R. O. T. C. at Technology, and it has been hinted that Col. Edwin T. Cole, now for five years professor of military science and recently commandant of the S. A. T. C., will be its commandant. No announcement, however, has been made on the subject.

The term that is just opening at the Institute is different from any that has hitherto been planned. It is largely an emergency term, and one important function will be to help the students make up the deficiencies due to the military demands of the last term. For this reason it covers twenty-two weeks as against the regular fifteen. At its close in June the students will be ready to go forward with the regular studies of the classes to which they belong.

The United States Army School of Military Aeronautics left Technology some time since, the S. A. T. C. units, both army and navy, are disbanded, and the Canadian aviators, whose bright uniforms were in contrast with the dull tone of the khaki, have likewise taken wings. The Naval Aviation Detachment has steadily diminished in number, till today there are only about two hundred at the school. These will be gone in about a month, and then the M. I. T. will again be on a normal basis.

TECHNOLOGY THROGGED WITH UNIFORMS

Registration a colorful spectacle this year — large registration —
changes in the Faculty

TECHNOLOGY's main lobby resembled a miniature mobilization of the various branches of the armies of the Allies when on December 31 nearly fifteen hundred students, many of whom were returning from field duty in the war, were present for registration. Uniforms of khaki and navy blue were mingled with the forest green of the United States marine aviators, while the maple leaf of the Canadian service was also to be seen. Gold and silver bars, ensign stripes, and those of higher commissioned officers, which were nearly as numerous as the uniforms of the common privates or "gobs" bore testimony to the fact that men of the Institute have taken their places in the conflict. When registration was officially closed at five, a total of fifteen hundred men had been registered and it is thought that late registrations will bring that number up to approximately two thousand.

While the upper classes were added to by a considerable number by men returning from service, the greatest increase was made in the freshman class, in which about eight hundred men are registered.

As the REVIEW goes to press the final figures are very striking. The total registration is 1902 . . . and that, too, without a senior class. There are 863 freshmen, of whom about 300 are junior freshmen; there are 537 sophomores, and 361 juniors who will graduate next year. In addition there are 141 graduate students and specials, often returned soldiers, who find no regular senior work provided for them.

The conclusion of the war has also brought about several changes in the instructing staff. Major A. S. Smith, who was formerly superintendent of buildings and power, was released from army duty December 11 and it is expected that he will return soon. Prof. E. E. Bugbee, who has been in the South working in connection with the Student Army Training Corps, has already returned. Lieut. G. S. Tower has been appointed an assistant instructor in the course of Naval Architecture and C. E. Hanson has been made an instructor in Aeronautical Engineering. Albert F. Murray, of the class of 1918, has been made an assistant in the Electrical Engineering Department and C. C. Stockman is now an assistant in the Biology Department. Professor Shugrue, of the Department of Economics, has been granted a leave of absence, and F. H. Lahee, assistant professor of Geology, and F. V. Dupont and B. R. Cleveland, both of the Mechanical Engineering Department, have resigned.

As their engagements elsewhere are terminated the former familiar faces are returning to their places among the instructing staff. Prof. E. E. Bugbee of the Department of Mining Engineering, has returned from a southern camp, at which he had instructing duties, while Gordon B. Wilkes, assistant professor of Physics, has returned.

Among the recent appointments are Percy Marks to be instructor in English, Howard F. Reed to be assistant in the Machine Tool Laboratory, Victor O. Homberg to be assistant in Analytical Chemistry, Donald S. Piston to be assistant in Physics and Leicester F. Hamilton to be assistant in Military Science and Tactics. Mr. Hamilton has been very active in the matter of military work, colonel of the

Technology Thronged With Uniforms

M. I. T. Cadet Regiment in his graduating year, he returned to the Institute the following year in the Department of Military Science and since that time has been connected with the department. On the establishment of the Naval Aviation Detachment at the Institute he was for a considerable time its instructor in military matters, and has rendered like service in the M. I. T. battalion in its different forms since the war began.

An important outside promotion has come to Prof. George E. Russell, '00, associate professor of Civil Engineering, namely, that of president and general superintendent of the Junior Plattsburg. This was established to care for men younger than would be accepted at Plattsburg, with the idea and intention of furnishing well trained material for the older officer camps, and with the cessation of the war will become a summer military camp of the first class. Professor Russell, whose specialty is hydraulic engineering, has been practically in charge of the Institute's Civil Engineering Camp at East Machias, Me., for the past two seasons. It was organized as a military camp and to him as commandant there was entrusted the entire organization and administration.

M. I. T. COMMITTEE ON NATIONAL SERVICE

SINCE the signing of the armistice, the Alumni Committee has reviewed its problem, and has decided to ask the Alumni who have contributed to the War Fund to renew or to continue their contributions for this calendar year.

During the past year the work of the War Service Auxiliary has been carried on—as you have learned through its printed reports—on the basis of generous contributions from members of the Corporation, from Alumni, and from a number of persons not connected with the Institute but recognizing the importance and value of the Auxiliary. With the signing of the armistice and the probability of peace and the return of our forces from Europe, the work of the Auxiliary will naturally terminate in the not distant future. On the other hand, the number of casualties in the fall and the needs of men homeward bound are certain to tax the resources of the Paris headquarters for some months to come. It is also important that the Auxiliary should be in a position to bring its records to such a state as to admit of combination with those in the Alumni office and of the ultimate publication. Not less important is the looking after the returning soldiers who may be in need of any sort of friendly aid. It does not seem wise to the Committee to make a new general appeal for the work here outlined but it is confidently hoped that those who have given will give again or will continue to make the monthly contributions for some time to come in order that existing undertakings may not be hindered or restricted.

For the Technology Bureau in the American University Union alone the Committee needs \$12,000 for 1919. Reports of the great success of this Bureau come to the Committee not only from Technology men but from men from other colleges.

HARVARD DECIDES TO GO IT ALONE

Will run an engineering school of her own with the McKay million—apparent end of the dual control

THE Harvard School of Engineering has been reorganized on a basis satisfactory both to the trustees of the McKay estate and to the governing boards of the university. This has been done in consequence of the decision of the Supreme Court of Massachusetts that the agreement with the Massachusetts Institute of Technology was not in accord with the will of the late Gordon McKay, and the new plan will be subject to the approval of the court.

The instruction will be wholly in the charge of a Harvard Faculty appointed by the governing boards and will lead, after four years of study, to the degree of S. B. Higher degrees will also be granted after additional study. The work will be carried on in the classrooms and laboratories of the university, but arrangements may be made from time to time to utilize the facilities of other institutions, especially in the advanced technical courses, whenever it is deemed wise to do so.

Instruction will be offered in mechanical engineering, civil engineering, sanitary engineering, electrical engineering, mining and metallurgy and industrial chemistry.

The terms of admission to the school will be the same as those to Harvard College, and will freely admit boys with a good high school training.

Students were admitted to the school the first of January. Courses began January 2 and will be continued during the summer to enable men to complete a full year's work by the beginning of the next academic year in September.

Concerning this decision the Boston "Herald" said editorially on December 20, when the plan was announced,

"All who have the interests of technical and scientific education at heart will take satisfaction in the announcement that the deadlock over the Gordon McKay endowment is at an end, and that, subject to court approval not likely to be withheld, Harvard will open her reorganized school of engineering early in January next. The need of this reorganization became evident in November last year, when the Supreme Judicial Court of Massachusetts declared invalid the agreement reached by which Harvard suspended her instruction in applied science and devoted three-fifths of the income from the McKay endowment to maintaining the engineering department of the Massachusetts Institute of Technology.

"It was required by the agreement that education in the five branches covered should be transferred from the University to the Institute and conducted as a part of the Institute's curriculum, that the school in which the teaching was given should be located at and controlled by the Institute, and that the Harvard professors associated with the courses should be members of the Faculty to the Institute. The court declined to regard the school of applied science on the Charles River embankment as a Harvard school, a department of Harvard University, and declared its belief 'that Mr. McKay intended that not only the investment of the endowment fund, but that the education which his endowment was to make possible, should be under the control and direction of the University, its government and administration.'

"The reorganization now carried out, on a basis agreeable both to the trustees of the McKay estate and to the governing boards of the University, gives full effect

to the decision of the court. Harvard's new engineering school will be conducted in the classrooms and laboratories of the University, with resort also, whenever there is need for it, to 'the facilities of other institutions'; and when income from the funds of the endowment is available for the construction of new buildings for the school they are to be erected on Harvard University grounds and bear the name of Gordon McKay. The courses will be wholly in charge of a Harvard faculty, appointed by the governing boards and having control, under the direction of the corporation, 'of all instruction given in the school wherever the instruction may be given.' The school undertakes to provide all grades of instruction from the lowest to the highest, and will keep its teaching 'accessible to pupils who have had no other opportunities of previous education than those which the free public schools afford,' the terms of admission being the same as those for students in Harvard College, except that supplementary fees for additional or for laboratory courses may be charged.

"Courses in the school or the services of its staff may be made available to qualified students from other institutions. At present the school offers training in mechanical, civil, sanitary and electrical engineering, also in mining and metallurgy and in industrial chemistry. Here, briefly outlined, is the democratic program, well worthy of Harvard, of what promises to be the greatest engineering school in the world. Headed by President Lowell, it will be opened for work on January 2 next, under the happiest auspices of both time and place and with the certainty of a usefulness for the life of this community and of the nation which cannot well be exaggerated."

THE GOVERNMENT WANTS YOUR PICTURE

TO THE EDITOR OF THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY ALUMNI MAGAZINE:

IT is requested and very vigorously urged that the alumni of the Massachusetts Institute of Technology who have served in any capacity with the American Expeditionary Force and who have snap-shot photographs, taken in France, forward copies of all such photographs, together with the necessary explanatory information to be used as captions, to the Officer in Charge, Pictorial Section, Historical Branch, War Plans Division, General Staff, Army War College, Washington, D. C.

These photographs are requested for incorporation in the permanent pictorial files, which will serve as the official photographic record and history of the war.

C. W. WEEKS,
Colonel, General Staff,
Chief, Historical Branch, W. P. D.

By:
A. GOODRICH,
Captain, U. S. A., Pictorial Section.

NAVAL AVIATION DEMOBILIZING

EARLY in November four hundred men were dropped from the rolls of the Naval Aviation Detachment at Technology. They were transferred to Commonwealth Pier for further optional transfer to the Army Aviation, the Naval Paymasters' School or back to civil life.

The news, as announced by Lieutenant-Commander Van Valzah, in command of the detachment, had the effect of a bombshell upon the seven hundred cadets on the receiving ship. Many of them had just arrived, while others have been undergoing strenuous training for a period as high as six weeks. To these it was a bitter disappointment.

The entire Naval Aviation Detachment left the Institute Saturday, January 18, probably never to return. During the war over six thousand fliers have received their preliminary training at this school. In these eighteen months an average of two hundred men have been graduated every two weeks, trained in the theory of aerial navigation, gunnery, radio and bombing.

When the United States entered the war the Institute offered the Walker Memorial to the Government for use as a ground school in aviation. The navy took the building and opened the school for instruction during July, 1917. It took college men and raw material out of civil life and transformed them into naval aviation officers. Rigid examinations admitted only the best of the applicants. Each class went through the weeding-out process and under the scrutiny of experienced officers, the misfits were eliminated.

The preliminary course taught the cadets how to handle a machine gun, the theory of flying, the rigging of a flying boat, navigation, seamanship, use of instruments in navigation, motors, bombing and radio telegraphy. After completing the ten weeks' course at the Institute, the graduates were sent to naval bases where they received instruction in actual flying. Next, the aviators were engaged in actual fighting at the front, U-boat hunting in the North Sea, and coast patrol work.

There are about one hundred cadet aviators left at Technology and they constitute the last class to receive diplomas when their ground training course is completed on Saturday. None of these students will be given the opportunity to fly. Instead they will be put on the inactive list without receiving commissions.

MAJOR C. L. WILLIAMS SHIFTED TO M. I. T.

MAJ. C. L. WILLIAMS, connected with the Harvard S. A. T. C. for several months and also in charge of the applications for the O. T. C. in this district, has received orders to report at Massachusetts Institute of Technology, and will enter actively on his new duties today. Col. C. A. Williams, father of the major, who has been commanding officer of the Harvard S. A. T. C. ever since its organization, is to return to Washington this week. He came out of retirement last August to assume the Harvard command.

INSTITUTE REPRESENTED

SINCE the beginning of the war twenty of the chemistry professors of the Institute have entered the Chemical Warfare Service. Much of the splendid work which has been accomplished in the service during the war is due to the efforts of our own professors. Our chemists have done distinguished work both in this country in research and in active service in France.

The present American gas mask is considered by far the most efficient that was in use during the last few months of the war. To turn these masks out in sufficient quantities to supply the enormous army which we are maintaining abroad, and yet be sure that every one is perfect as it must be, has been one of the biggest jobs that presented itself. The chemistry department of Technology has given twenty men to the Chemical Warfare Service, fifteen of whom are commissioned officers. Most of the professors who remained here have been doing consulting work for the Government. Dr. Henry P. Talbot, who is head of the chemistry department, although continuing his work here, is a member of the consulting board of the Bureau of Mines, is also on the consulting board of the War Department, especially in regard to gas defence. Dr. Warren K. Lewis, the youngest professor at the Institute, deserves particular credit for his work, according to "The Retort," the newspaper published by the American University Experiment Station. Dr. Lewis is assistant to the director of the Gas Defence Department, his particular work being the working out of the defence problems. Other men from Technology who occupy important positions in this service are Col. William H. Walker, Col. Dewey, Maj. Samuel P. Mulliken, Maj. L. T. Sutherland, Maj. Robert E. Wiedon, Capt. John B. Dickson, Capt. F. Hastings Smyth, Capt. John S. Little, Capt. William B. Leach, Lieut. Wilfred A. Wylde, Lieut. Edwin S. Wallace, Lieut. Charles L. Burdick, Lieut. Earle P. Stevenson, Sergt. Stanley L. Chrisholm, Corp. James F. Maguire, Jr., Corp. Walter F. Hall, Pvt. Clarence L. Nutting and Pvt. Stephen G. Simpson. Besides these men there are three men who obtained commissions for overseas service, and have been in active gas defence work for some months. They are Lieut.-Col. James F. Norris, Maj. Hugo H. Hanson and Maj. Frederick G. Keyes. Professors Noyes, Moore, Millard, Sherrill, and Kneeland are doing research work, Professor Noyes being on the National Research Committee.

TECHNOLOGY TO SUFFER NO LOSS

EQUITABLE financial adjustments will be made by the War Department with educational institutions which have suffered loss by reason of the demobilization of the Student Army Training Corps. The announcement that such an arrangement had been reached was contained in a letter from Major Ralph Barton Perry, secretary of the committee on education of the general staff, made public by the Merchants Association, which had instituted an inquiry into the subject.

PUBLICATIONS OF THE INSTITUTE STAFF

- BARROWS, H. K. "Some Tendencies in Sewer Design and Construction." Municipal Journal. April, 1918.
- "Report upon Water Power Resources of Kennebec, Androscoggin and Saco Rivers." Report of Public Utilities Commission, State of Maine. Pp. 50. December, 1918.
- "The Cost of Power in the State of Maine." Report of Public Utilities Commission, State of Maine. Pp. 40. December, 1918.
- BIGELOW, ROBERT P. "Variation." Reference Handbook of the Medical Sciences. Vol. VIII. Pp. 416-432. 1917.
- BLANCHARD, A. A., and H. P. TALBOT. "Notes on the Ionic Theory." Printed for the use of Technology students, but not published. November, 1918.
- CROSS, CHARLES R. "Funds for Research in Astronomy." Science. Vol. XLVIII. Pp. 75-81. No. 1230. July 26, 1918.
- "Biographical Notice of Professor William Watson." Proceedings of American Academy of Science. Vol. 52. Pp. 871-873. 1917.
- Notices of members of class of 1870, M. I. T., recently deceased. "James Lincoln Hillard," TECHNOLOGY REVIEW. Vol. XX. P. 278. "Andrew Montgomery Ritchie." TECHNOLOGY REVIEW. Vol. XX. Pp. 482. July, 1918.
- COWDREY, IRVING H. "Moisture Reabsorption of Air Dried Douglas Fir and Hard Pine and the Effect on Compressive Strengths." American Society of Mechanical Engineers. New York. June, 1918.
- "Transverse Testing Under Non-Uniformly Distributed Load with Especial Application to Airplane Wing Ribs." American Society for Testing Materials. Philadelphia, Pa. June, 1918.
- FRANKLIN, WILLIAM S. and BARRY MACNUTT. "Calendar of Leading Experiments." Bethlehem, Pa. Franklin, MacNutt and Charles. Size 8vo. Pp. 220. Illustrated. July, 1918.
- FULLER, C. E., and W. A. JOHNSTON. "Applied Mechanics." Vol. II. "Strength of Materials." John Wiley & Sons, Inc. New York. Size 6 x 9. Pp. 538. Illustrated. December, 1918.
- GILL, A. H. "Gasoline and Its Dangers." Power. Vol. 46. June, 1918.
- "The Use of Oils for Textile Purposes." Textiles. Vols. 12 and 13. March-December, 1918.
- "A Short Handbook of Oil Analysis." 8th Revised Edition. J. B. Lippincott Company, Philadelphia, Pa. Size 8vo. Pp. 209. Illustrated. 1918.
- "The Occurrence of Carotin in Oils and Vegetables." Journal of Industrial and Engineering Chemistry. Vol. 10. Pp. 612-614. 1918.
- "Household Fuel." The Youth's Companion. Vol. 42. Pp. 470. September, 1918.
- HAVEN, GEORGE B. "Effect of Moisture on the Tensile Strength of Aircraft Fabrics." American Society for Testing Materials. Philadelphia, Pa. June, 1918.
- HAYWARD, CARLE R. "The Effect of Boiling Sulphur on Copper." Metallurgical and Chemical Engineering Society. Vol. XVIII. Pp. 650. June 15, 1918.

- HITCHCOCK, FRANK L. "On the Operation ∇ in Combination with Homogeneous Functions." *Philosophical Magazine*. Vol. XXXV. Pp. 461-471. June, 1918.
- "A Classification of Quadratic Vectors." *Proceedings American Academy of Arts and Sciences*. January, 1917. Vols. 52-57. Pp. 369-454.
- "The Square Roots of a Linear Vector Function." *Proceedings of the Royal Society of Edinburgh*. Read May 19, 1917. Vol. 37. No. 20. Part 350-355.
- HOFMAN, HENRICH O. "Lead." *The American Year Book for 1917*. Appleton, New York, 1918.
- "Metallurgy of Lead." *Engineering and Mining Journal*. No. 93. 1918.
- "Recent Improvements in Lead Smelting." *Mineral Industry*. Vol. XXCI. Pp. 388.
- "Metallurgy of Lead." McGraw-Hill Book Company, New York. Size 6 x 9. Pp. 664. Illustrated.
- HOSMER, GEORGE L. "Navigation." John Wiley & Sons, Inc.
- JAMES, WALTER H., and M. C. MACKENZIE. "Principles of Mechanism." John Wiley and Sons, Inc., New York. (In Wiley Technical Series.) Size 12mo. Pp. 241. 192 Cuts. 1918.
- JOHNSON, LEWIS JEROME. "Two Suggestions for Municipal War Programs." *Engineering News Record*. Vol. 80. Pp. 529. March 14, 1918.
- "The Preferential Ballot." *New York Public*. Pp. 89-90. January 18, 1918.
- "Letter of Acceptance as President of National Single Tax League of the United States." *Bulletin of Reconstruction*. Vol. II. Pp. 6-8. Philadelphia, Pa. October, 1918.
- "The Loring Provision of the Massachusetts I. and R. Amendment." *Springfield Republican*. Pp. 8. November 1, 1918.
- KENNELLY, DR. A. E. "Apparent Dielectric Strength of Varnished Cambric." *Bulletin No. 15. Electrical World*. January, 1918.
- "Magnetic Flux Distribution in Annular Steel Laminæ." *Bulletin No. 16. Report of an investigation read before the A. I. E. E. at their three hundred and thirty-fifth meeting in New York*. March, 1918.
- "Edge Effect in Copper Bars at Electric-Lighting Frequencies." *Journal of the Franklin Institute*. Vol. 185. Pp. 417-419. March, 1918.
- LIPKA, JOSEPH. "Graphical and Mechanical Composition." John Wiley & Sons, Inc., New York. Size 6 x 9. Pp. 267. Illustrated. December, 1918.
- LOCKE, CHARLES E. "Mining and Ore Dressing Review of 1917." *American Year Book*. Pp. 471. 1918.
- And ROBERT H. RICHARDS. "Progress in Ore Dressing and Coal Washing in 1917." *Mineral Industry*. Vol. XXCI. Pp. 764-824. Illustrated. 1918.
- MOORE, F. J. "A History of Chemistry." McGraw-Hill Book Company, New York. Size 8vo. Pp. 271. Illustrated. 1918.
- And RUTH M. THOMAS. "Allantoxanic Acid as an Oxidation Product of Uric Acid." *Journal of American Chemical Society*. Vol. 40. Pp. 1120-1132. July, 1918.
- PASSANO, LEONARD M. "Eight Months of U-Boat Warfare." *Marine Engineering*. Vol. 23. No. 3. March, 1918.
- "Plane and Spherical Trigonometry." Macmillan. Size 8vo. Pp. 131. 1918.
- "America Enters the War." (Verse.) *Baltimore American*. June 24, 1917.
- "The Hound of the West." (Verse.) *Baltimore American*. September 15, 1918.

- ROGERS, ROBERT EMMONS. "Behind a Watteau Picture." Fantasy in verse in one act. Walter Baker Company, Boston. September, 1918.
Editor. THE TECHNOLOGY REVIEW. Quarterly Magazine, Massachusetts Institute of Technology. Cambridge, Mass.
- SHIMER, HERVEY W. "Post-Glacial History of Boston." American Academy of Arts and Sciences. Vol. 53. Pp. 441-464. Illustrated. May, 1918.
- TALBOT, HENRY P. "Chemistry at the Front." Atlantic Monthly. Boston, Mass. August, 1918.
"Chemistry Behind the Front." Atlantic Monthly. Boston. November, 1918.
- And A. A. BLANCHARD. "Notes on the Ionic Theory." Printed for the use of Technology students, but not published. November, 1918.
- THOMAS, RUTH M. and F. J. MOORE. "Allantoxanic Acid as an Oxidation Product of Uric Acid." Journal of the American Chemical Society. Vol. 40. Pp. 1120-1132. July, 1918.
- VENABLE, C. S. "The Action of Hydrogen Peroxide Upon Uric Acid." Journal of American Chemical Society. July, 1918. Vol. 40. Pp. 1099-1119. Illustrated.
- WHIPPLE, GEORGE C. "State Sanitation." A Review of the Work of the Massachusetts State Board of Health. Vol. II. Harvard University Press, Cambridge, Mass. Size 6 x 9. Pp. 452. Illustrated.
"Fresh-Water Biology." John Wiley & Sons, Inc., New York. Size 6 by 9. Pp. 1111. Illustrated.
"The Engineer in the New Democracy." Boston Society of Civil Engineers. Pp. 20.
"Russia — An Opportunity for American Engineers." Boston Society of Civil Engineers. Pp. 30.
- WILSON, W. HAROLD. "On a Certain General Class of Functional Equations." American Journal of Mathematics. Vol. 40. Pp. 263-293. July, 1918.

MISCELLANEOUS CLIPPINGS

ALMOST revolutionary are the changes recommended for teaching engineering by the last bulletin of the Carnegie Foundation for the Advancement of Teaching.

Engineering by the "Case Method"

But they represent not only thorough study by expert brains, but much sentiment in the engineering profession. In brief, the report complains that the teaching of engineering has been unprogressive and is defective in manifold ways. The chief defect alleged is the method of drilling the student in a great

array of principles and facts and having him then proceed to their practical application in his technical work. The report urges the substitution of something like the "case method," which Professor Langdell introduced into legal education, so that the general principles should be evolved from practical cases given the student—the testing of a dynamo or building of a pump. Dr. Charles R. Mann, formerly of Chicago University, is author of the report. The studies on which it is based were begun eleven years ago by the Society for the Promotion of Engineering Education, representatives of which, of the American Society of Civil Engineers, and other engineering societies, and the American Chemical Society, have assisted Dr. Mann.

The critic will at once ask, "Is not all engineering study filled with case work?" Do the students not spend long periods in shops and laboratories at hard manual work, do they not go in summer into engine rooms and machine plants, are they not often compelled to spend apprentice periods in technical establishments as part of college training? True; but this is not "case study" in the sense meant. It is practice work. Langdell's discovery was that, while the student could not master the vast array of legal facts in our libraries of law reports, he could learn law by working out from a comparatively small number of typical cases its fundamental principles. His method is sometimes called the laboratory method, but is really quite different from much of the laboratory method of teaching technology. This report maintains that in the latter case the student is too often not evolving principles for himself, but simply having theory and detail drilled into him. He "undertakes to learn a vast body of theory under the name of physics, mechanics, or chemistry, illustrated in some measure in the laboratory, and then seeks later to select from this mass of knowledge the principles to be applied." We are assured, for example, that the laboratory experiments in physics have invariably as object the verification of some law the student already knows, the visualization of some fact he already knows, or the determination of some known constant. In chemistry a great number of rules and facts are taught by lecture and text—and then verified in the laboratory. So with mechanics. The aim is to stock the student's mind with facts in preparing him to solve real problems in the laboratory during his course and in life after graduation, not to recognize principles and think for himself.

Mathematics is now taught in a number of disparate branches—calculus, descriptive geometry, etc.; the report proposes that an effort be made to teach it as a whole and link every problem with a bit of engineering work which would demand a certain rule. The report suggests that the student's powers of original thought would be stimulated—though this would not be so if his instructors thought that "case work" meant easy work. The fact is amply attested here that engineering employers care little for technical ability compared with a half-dozen other qualities. Of these, character and efficiency, which between them must comprehend ability in original thought, are foremost. Even personality seems generally rated higher than parrot-

like knowledge of technical facts. Again, Dr. Mann maintains that the present school work, particularly in its first years, is not a full or fair test of the student's ability to be a good engineer, and that some find out late or not at all that they have missed their bent, while others are forced out who should continue.

Full application of the proposed reform would plainly need protracted educational experimentation. But the report informs us that a few applications have already been made. One is at the University of Washington.

Mechanics is usually placed in the third year, so that students may be well prepared for it in the physics and calculus. The conventional course begins with the statement of definitions and deduction of general principles, followed by the solution of typical problems. Professor Moore begins by asking the students to report on the safety of sheet-piling in a certain cofferdam. Theory and principle are worked out and proved as they are needed to solve the problem. . . . Last year the same course was tried, including the calculus, on one section of freshmen, who mastered it with little more trouble than the juniors. As a result, the entire engineering faculty now sanctions this order of topics from application to theory as a great improvement.

At Cincinnati University a similar reorganization of chemistry has been tried. After brief preliminary study, freshmen work all day in the laboratory for ten weeks, solving without instructions such problems in industrial chemistry as "make baking powder and determine whether it is better and cheaper than any you buy." Boston Tech and the University of Wisconsin have devised two years' continuous mathematical study that lays aside the old divisions and pays close attention to applications. Dr. Mann's discussion of the shop work which the Universities of Illinois and Cincinnati have highly developed in different directions shows that it may easily contribute to illuminate theory and make it significant as well as to give information and dexterity. No doubt, such experimentation will continue, and in proportion as it is thoughtful and careful, prove valuable. Such attempts to use the "case system" principle will especially demand teachers of the best class, and with inferior teachers would probably prove disastrous.—NEW YORK EVENING POST.

THIS seems to be an odd moment for the recent pessimistic utterances of one of the professors at the Massachusetts Institute of Technology on the need of better training in all our engineering schools. For the fact is, not only have the professional engineers and their associates from West Point and Annapolis and all their amateur assistants who went into the army and navy covered themselves with glory in the war, but at this very moment, when the English University Commission has started back for home, its farewell opinion is more than usually flattering to American collegiate and university education. Moreover, what it particularly admired and marveled at was the splendid equipment of the technical schools and the physical laboratories in our larger institutions. In this it but confirmed English opinion as expressed in the friendly report of Alfred Moseley's unofficial commission, which made a survey of engineering training and practice in this country about a decade ago, a report that was a great tribute to the American trained engineer and to American schools.

But if any confirmation of the value of the American engineer and of the technical training that has given him an efficiency recognized everywhere be needed, it will be found in Professor William M. Sloane's brilliant account of his experience with the leading German magnates when he was one of our exchange professors. In his inimitable way, Professor Sloane has told how these German specialists fumed at the mouth because the American engineers were successful and beat the German

American
Engineering

engineers, when from the Prussian point of view such a thing ought to have been impossible, since America was a wretched country, without standards of education and without individuals possessing any capacity for science or Kultur. Well, as the very modest recent report of President Vail, of the American Telephone and Telegraph Company, shows, in his discussion of the new multiplex device for phone and telegraph, the invention, one of the greatest ever made, was not the freakish discovery of one mind, but the result of the team work of hundreds of men on the company's technical staff. Not only that, but suggestions from men trained at Annapolis and West Point also proved helpful. In other words, the discovery was the result of the high equipment of the average American trained in the average school of technology or in that of trade experience. And one naturally mentions this multiplex discovery, since, taken in connection with the resourcefulness and initiative which mark so much of the college-trained, school-trained and shop-trained Americans on the battlefield in which they completely outclassed their German opponents, it is a feather in our cap and calls for some little reassurance, if not complete optimism, as to the American methods of the present.

Moreover, the English engineer has also shown up well in war, although Germany despised the English experts for years and also had a poor opinion of the Frenchman's ability. And yet the English tanks, the French baby tanks, the French guns, to say nothing of the supreme French airplanes, and also not forgetting the Italian engineers and mechanics who reached an almost super-excellence, have all achieved wonders in the war and beat the Germans point by point in every line of action. The fact is, we must stimulate our own and we must increase our facilities for training engineers and for reaching down and connecting and gearing up the various engineering trades with the technical colleges and universities. But while it is quite right not to relax or fall back, at the same time we should take a little satisfaction in the evidence that the German system of education and the state-commanded scheme of a standardized universal Kultur has proved a failure so far as the question of developing men with initiative and individual resourcefulness is concerned. That our laboratories are likely to attract English students is another thing we can take to heart with comfort. Aside from this, it is clear that as civilization in the future will demand more of the engineer than ever, this demand our schools and colleges must meet. That they will no one can doubt. And as a sort of first instance, the recent reorganization of the Yale Graduate School by which the Sheffield Scientific School and the arts are grouped under a common head with an increase of the undergraduate scientific course from three to four years is proof of the pudding.—PHILADELPHIA PUBLIC LEDGER.

TECH MEN IN PUBLIC EYE

DWIGHT P. ROBINSON, '92, VI, a former partner of Stone & Webster, in charge of their construction and engineering business, has opened offices in New York under the name of Dwight P. Robinson & Company, Inc., constructing and consulting engineers. Mr. Robinson's work runs back for a period of twenty-five years, during which he has been associated with Stone & Webster, first in the management of some of their electric railway and lighting properties, later, for fifteen years, as president of the construction and engineering branch of the organization. Since 1912 he has been a member of the firm. Some of the more generally known projects which came under his personal supervision were the extensive water-power developments serving the Puget Sound cities, the steam and water-power plants supplying Minneapolis, the electrical and transmission features of the Keokuk development on the Mississippi, the big Creek development serving Los Angeles, large steam power stations for Buffalo, Boston, Minneapolis, New Bedford, Youngstown and other smaller plants, aggregating over 500,000 kw. capacity, in addition to the new home of the Massachusetts Institute of Technology. Mr. Robinson is a graduate of Harvard University as well as the Institute.

DON LOOMIS GALUSHA, '04, VI, who is one of the electrical engineers of the newly organized consulting engineering firm of Dwight P. Robinson & Company, Inc., has been working under Mr. Robinson's direction for twelve years, the last five as head of the electrical division of Stone & Webster. His experience also covers a long list of power stations and industrial plants in all sections of the country. Some of his best-known work was done as electrical engineer in charge of the Mississippi River power development at Keokuk and the Minneapolis General Electric Company's large steam station, replacing one destroyed by fire. This was built in less than four months, although it involved extensive changes in the system of distribution and control through substations, overhead high-tension and underground systems. His experience has also included the design, construction and operation of hydroelectric stations, substations, transmission lines, motor applications, lighting and power in industrial plants and apprentice and test work in the Westinghouse Electric & Manufacturing Company. He is thirty-seven years old and a graduate of Technology.— "Electrical World" December 14, 1918.

JOHN F. WESSEL, '98, VI, who about a year and a half ago was elected vice-president of the United Gas & Electric Engineering Corporation, has just been appointed chief engineer of the corporation in addition, succeeding L. J. Hirt, who has resigned. Mr. Wessel for many years has been identified with lighting and railway interests. He was general manager of the Mahoning & Shenango Railway & Light Company of Youngstown, Ohio, prior to coming to New York toward the end of 1913.

ELISHA LEE, '92, I, the new Federal manager of the Pennsylvania Railroad, was born in Chicago, September 24, 1870. He was graduated from the Massachusetts Institute of Technology in 1892 and immediately entered the service of the Pennsylvania Railroad as rodman.

Seven years later he was made assistant supervisor and four years later was made assistant engineer in maintenance of the right of way. He then became chief

engineer and was made superintendent of the New York, Philadelphia and Norfolk Railroad in 1909.

In 1911 he was appointed as assistant to the general manager of the lines east of Pittsburgh and in 1916 was made general manager of the operating department for the lines east of Pittsburgh.

At one of the recent sessions of the Harvard-Technology School of Public Health, Dr. W. T. Southwick introduced for the speaker an alumnus of the institute of 1909; ALBERT T. STEVENSON, now sanitary engineer in the United States Public Health Service. His work has been of late in the development of "reconstructed" milk. This is in brief a dried milk with which numerous practical experiments have lately been made. One of the war problems has been a milk supply for the mushroom cities which the munition plants established in out-of-the-way places have developed. In New England, which is a cow country, such questions need never come up if the milk situation is handled with intelligence in its legislation, but there are many places where there are no cows and where the problem of milk is very serious. Such a one was Nitro, W. Va., where a powder factory was established and which grew very rapidly.

With the building of the city of Nitro came this question which the service undertook to handle. There was no labor outside of the factories, even if there had been a supply of cows in the district. At the same time families had moved there with children and milk was necessary. Here it was that reconstructed milk received a definite and successful trial.

The building and the organization of the United States Aircraft Plant at League Island were intrusted to COMMANDER FREDERICK G. COBURN, '07, naval constructor — in the words of the ancients, a "presence, not a Voice." Naval Constructor Coburn literally built the plant from the ground up. He was to be seen on the grounds from "early candle lyte" until the last torches went out, in a faded old uniform, giving little more than an official hint of his rank and responsibilities. Caught in a corner toward the last of the enterprise, he confessed that he had been trained at Annapolis, put in three years as a line officer, then gone to the Massachusetts Technology, becoming a master of science, and followed this with practice as a naval architect and marine engineer, specializing on destroyers. He put in three years at Mare Island, Cal., three more at League Island and three at the Boston Navy Yard. When the war came and the cry went up for airplanes, he was sent to Philadelphia.

NEWS OF ALUMNI ASSOCIATIONS

WASHINGTON SOCIETY OF THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY.—Annual meeting, December 10, 1918. The Washington Society of the Massachusetts Institute of Technology held a successful meeting December 10, at the University Club. About fifty of the seventy men present were in uniform. Free "movies," informal talks by prominent Tech men, and the annual election of officers made up a program which was interesting and lively. Calvin Rice, '90, secretary of the American Society of Mechanical Engineers, said that three men of a committee of nine engineers on their way to France to assist in reconstruction work were Tech men, namely, George F. Swain, Charles T. Main and George W. Fuller. Professor Dewey left an economic problem to solve, as of old, and "Ike" Litchfield told of his work in the Department of Labor and spoke optimistically of the business future of the country. The officers for the succeeding year are:

President, Major A. N. Holcombe, '04; vice-president, F. W. Swanton, '05; secretary-treasurer, E. J. Casselman, '15; member of Executive Committee, E. B. Phelps, '99. For the secretary, E. J. Casselman, '15, 3519 Lowell Street, N. W., Washington, D. C.—ROY R. GANGER, '17.

NEW BEDFORD—TECHNOLOGY CLUB OF NEW BEDFORD.—The annual meeting of the Club was held Thursday evening, November 21, at the Wamsutta Club. Fred E. Earle, '06, was elected president, Charles L. Faunce, '88, member of the Executive Committee, Charles F. Wing, Jr., secretary and treasurer, pro tem; Charles L. Lawton was re-elected member of Council. Mr. Howes of the Island Oil and Transportation Co., gave a brief address on his problem on converting coal barges into oil barges. There were fifteen members present.—CHARLES F. WING, JR. '98, Secretary-Treasurer, pro tem, 36 Purchase Street, New Bedford, Mass.

LOUISVILLE—TECHNOLOGY CLUB OF LOUISVILLE.—In reply to the editor's letter of December 4, 1918, and previous communications, I wish to advise that our Louisville Club is not a very active organization, and, in fact, has not had any meeting for a long time. I regret, therefore, that I am not able to advise you of any recent activities of the Club nor of its individual members.—L. S. STRENG, '98, 311 West Chestnut Street, Louisville, Ky.

MILWAUKEE—TECHNOLOGY CLUB OF MILWAUKEE.—I have nothing new to report for the January class notes. It is rather difficult to keep in touch with the boys as they are all busy with their particular work and have scattered somewhat.—J. F. BLACKIE, '04, Milwaukee Coke and Gas Company, Milwaukee, Wis.

SYRACUSE—M. I. T. CLUB OF CENTRAL NEW YORK.—The first monthly dinner of the Club for the season was held at the University Club at 6 P.M. on the evening of December 12.

Officers were elected for the ensuing year as follows:

President, J. L. Curtis, '02; vice-president, Harry Burhans, '07; secretary-treasurer, J. S. Barnes, '08; executive committee, H. E. Batsford, '08, F. J. Chesterman, '05.

We had expected to have Mr. R. B. Ware, one of our members who is secretary of the Thomas Morse Aircraft Corporation, tell us something about his activities during the past two years, but unfortunately he was called to Washington at the last minute and we were disappointed. We hope to have Mr. Ware with us at some future time.

It is our purpose to make all of our meetings, which we intend to have monthly, particularly interesting through having some feature either by Technology men or possibly some outsiders. We believe by so doing that we can build up enthusiasm which will make our club one of the best in the Association.—J. S. BARNES, '03, Secretary, Merrell & Soule Co., Syracuse, N. Y.

CINCINNATI M. I. T. CLUB.—Our regular meetings consist of one annual winter meeting, one (sometimes) summer outing, and the Tuesday noon to 2 P.M. lunches each week. We had hoped to have the winter meeting this December, but it did not develop, so we shall probably hold it during the coming January. Please note that the location of our Tuesday lunches has been changed to Schuler Cafe, 626 Vine Street, second floor, where there is always a welcome awaiting strayed or lonesome Technology men who happen to be in this vicinity at the proper hour of the proper day; and at any other hour of any other day we will be glad to welcome him or them.

On Monday, December 9, our membership suffered a great loss in the death, at his home in Germantown, Ohio, at the age of 68 years, of John A. Hildabolt, of the class of '75. If I am correctly informed, Hildabolt took the course in Civil Engineering, entering in 1871, having been the first boy graduated from his home high school. At the time he entered, as he expressed it, it took nerve to go away up to Boston Technology from this far west. For a while he worked along his line in engineering, but the greater part of his business career has been in the furniture and undertaking business, in which he has been prominent for many years. He never married, but lived with his two maiden sisters in the old homestead, where he had lived for more than sixty years. He was a member of the Scottish Rite, and belonged to Antioch Shrine; also a member of the Odd Fellows. I am enclosing a likeness of him, the publication of which we would consider a compliment, and I know would be of particular interest to his classmates of '75, who read THE TECHNOLOGY REVIEW.—MORITZ SAX, '96, Secretary, 1011 Fourth National Bank Building, Cincinnati, Ohio.

NIAGARA FALLS TECHNOLOGY CLUB.—Have been in hopes of having some news from the Niagara Falls Technology Club for January REVIEW. The ban placed on account of the "flu" epidemic has stopped all gatherings. With the new year we will start afresh.—NORMAN DUFFETT, '11, Secretary, Care of Union Carbide Co., Niagara Falls, N. Y.

1883

HARVEY S. CHASE, Secretary, 84 State Street, Boston, Mass.

Among the legal notices in a Philadelphia paper is one of interest to the class of '83:

IN THE COURT OF COMMON PLEAS No. 3 for the County of Philadelphia. Of June Term, 1918. No. 5,561. In re Petition of ALBERT FINK SCHMIDT for change of name. Notice is hereby given that on the second day of December, 1918, the above-named court decreed that the name of Albert Fink Schmidt be changed to that of Albert Fink Smith.

The secretary sent Mr. Smith the following:

DEAR SCHMIDT: Congratulations! How are the little — now big (?) — Sch — Sh — Smiths?

Sincerely,

H. S. C., '83.

1884

HARRY W. TYLER, Secretary, Massachusetts Institute Technology,
Cambridge, Mass.

The postponed annual dinner of the class of 1884 was held at the Engineers' Club on Monday, December 2, with fifteen members in attendance: Appleton, Bennett, Coburn, Dearborn, Doane, Fitch, French, Gill, Jarvis, Lull, Pratt, Stuart, Ward, Whitney and Tyler.

Letters and telegrams were read from Bonillas (the Mexican ambassador), Chase, Bridgman, Holder, Lyle, T. W. Robinson, and A. W. Whitney.

It was agreed to appoint a committee to arrange for a thirty-fifth anniversary reunion next June, and the suggestion of a week-end at some point on Cape Cod was favorably received.

"Through the return to the Boston office of Stone & Webster of I. Chester Horton, Hog Island lost the services of one of its best engineers and the real pioneer of the forces engaged on the work. The earliest studies of the Hog Island plant were made in Boston under Mr. Horton's supervision. The preliminary layouts required the direction of an engineer with exceptional judgment and imagination to enable him to picture a project of such magnitude with absolutely no precedence of any kind to serve as a guide."—Exchange.

The death of Mr. Alfred Stebbins has recently been reported to us, though it is understood to have occurred some weeks ago.

1885

I. W. LITCHFIELD, Secretary, Cosmos Club, Washington, D. C.

No report received from secretary.

The one item of news for the class is a change of address, Robert Rhea Goodrich is at 521 East 3d Street, Anaconda, Mont.

It is reported that Ike Litchfield is to be in Washington for several months, serving his country in some important capacity; just what, he has not confided to the undersigned. As a consequence, our president Horace Frazer has thoughtlessly wished the duties of Class Secretary on to me, and I have agreed to act as secretary until the class dinner; at which time it will be up to the class to elect a secretary.

The REVIEW is going to press as I write so I have no time to collect any news for the January number; but I hope every member of the class will send something about himself or family for the next issue. It is planned to have the class dinner on the usual date, i. e. the last Saturday before Easter.

For the benefit of those who have not done those things that ought not to have done etc., I will say that the Easter comes on the Sunday following Pan-cake Tuesday, which is the Tuesday following the second new moon after the vernal equinox. Notices of the dinner will be sent to all members in ample time to prevent any one from having an alibi.

If any member has changed his address I hope he will notify me immediately so that I can at once get in touch with every member of the class. — R. H. PIERCE, Spirituous Advisor and Secretary Pro-tem; address Room 742, No. 52 State Street, Boston.

1886

ARTHUR G. ROBBINS, Secretary
Massachusetts Institute of Technology, Cambridge, Mass.

No report received from the secretary.

The editor has received word of the death in February, 1918, of S. C. Stickney, I, of New York City.

1888

WILLIAM G. SNOW, Secretary, 95 Milk Street, Boston, Mass.

J. C. Runkle, who now represents the class on the Alumni Council, has recently returned from a business trip to the Pacific Coast.

E. S. Webster was chairman of the committee in charge of the Red Cross membership drive at Christmas with headquarters in Boston.

At a meeting of the members of the New England Insurance Exchange, held in December, a ship's clock was presented to Ralph Sweetland, assistant secretary, as a token of appreciation for twenty-five years of faithful and efficient service.

Joseph Cooke Smith wrote late in the fall that he worked two years for the French Red Cross and was for a time with the Duryea War Relief Committee in the war zone. For the past year he has been with the American Red Cross in different parts of France, and in the Prisoners of War Department at Berne, Switzerland.

Major Fred J. Wood is now at 7th and B streets, S. W., Washington, D. C., having been transferred from Sparrows Point, Md., where he has had charge of construction work.

Stephen Child is located in Washington at 3228 Park Place, N. Y.—William L. Dearborn is now located at Laconia, N. H.

Arthur B. Frizell has been engaged as lecturer in mathematics at Brown University in order to take care of the increased enrollment of students in this particular course.

Mr. Frizell was educated at the Massachusetts Institute of Technology and Harvard University, graduating from the University in 1893, and taking an A. M. in 1900. In 1910 he received his Ph.D from the University of Kansas; from 1906 to 1908 he was a student at Gottingen. He has had various teaching positions as follows: Instructor in mathematics in the College of the City of New York, 1895 and 1896; instructor at Harvard, 1897–1906; professor in Midland College, Kansas,

1908-9; instructor in the University of Kansas, 1909-11; professor in McPherson College, Kansas, 1912-17; University of Michigan, 1917-18.

1889

WALTER H. KILHAM, Secretary, 9 Park Street, Boston, Mass.

Wales has been interesting himself in etching of recent years and has done some delightful plates of old and new ships, yachts and other marine scenes. He persistently refuses to have a public exhibition, saying, "Wait until I can do better," but to the secretary's eye they are good enough without any further improvement.

Wales not only has a complete knowledge of ships at his command, so that the marine detail is absolutely correct, but his artistic sense gives an atmosphere to his etchings which is found in the productions of very few marine artists.

Jasper Whiting, III, is a major, and now on duty in France. Sanford E. Thompson is lieutenant-colonel in the Ordnance Department, U. S. A., Washington, D. C.

1890

G. L. GILMORE, Secretary, Lexington, Mass.

The following clippings are of interest to the class:

Warning that workers engaged on Government contracts who violate the principles of "straightforward dealing between capital and labor" will not only forfeit their jobs, but are liable to be blacklisted for the rest of the war, was issued here tonight by William Z. Ripley, connected with the Quartermaster's Department of the Army.

In expressing gratification at the settlement between employees and officials of Rosenwasser Brothers in Long Island City, Mr. Ripley declared the negotiations had been marred by the action of navy shoe vamps, who repudiated an agreement.

"The administration of labor standards stands for fair dealing and a full recognition of workers' rights, but it likewise insists upon efficiency, discipline and good faith," said Mr. Ripley. "This strike was a breach of straightforward business dealing. It will not be tolerated so far as any penalty which this office can impose is concerned."

Decision of Dr. William Z. Ripley, Administrator of Labor Standards on Army Clothing, in case of Zeeman & Grossman, manufacturers of uniforms, against their cutters, states that "evidence established the fact of a progressive decline per unit of time in output of cutting department since May, 1918. Decrease in production within last month reached point where only approximately fifty per cent of normal performance per man was had. . . . This case is peculiar in that indubitable evidence was afforded by downright admission of representative of the workers that curtailment of production was part of plan to compel firm to grant increase in wages."

Letter received from Capt. Charles H. Alden under the date of November 12. Charlie is now in France at the headquarters of the 26th Army Corps, of the American Expeditionary Force. He is quite near to what was the firing line, and has seen some of the air fights, and occasionally had a shell go over his way, and he also speaks of the celebration that followed the armistice. He does not look for an early return to this country, as his work is largely with the Quartermaster Depot, where he is busy looking after supplies.

Mr. and Mrs. Charles B. Beason issued cards for the marriage of their daughter, Elizabeth Jane, to Elliot Buckmaster, lieutenant, United States Navy, on November 8, at the Channing Unitarian Church, Newton, Mass.

Letter from Schuyler Hazard, advising that his boy is in France, having sailed on September 24. He left Technology in July, and is in the Tank Corps, 379th Company.—Frank L. Chase is with the Lone Star Gas Company, Fort Worth, Texas.—Lieut.-Col. Henry M. Waite is with the Expeditionary Forces in France, connected with the Engineering Department.—Franklin P. Gowing's business address is 230 Purchase Street, Boston, Mass.

Capt. William G. Curtis entered the service on September 5, receiving his commission in the Medical Corps. He had every expectation of going overseas, but with the signing of the armistice the chances are slim. He has been very busy, located at Chickamauga Park, handling the "flu" epidemic.—Letters from Lieut. John B. Blood, who is on the U. S. S. "Kwasind," and for the past year has been located in the West India section.

At a recent meeting of the American Society of Civil Engineers, George W. Fuller delivered an address on "Emergency Construction Work Due to War Conditions," with especial reference to the Construction Division of the Army.

We regret to announce the death of our classmate, William Mossman, December 13, 1918. He was sick for about two weeks with pneumonia.

1891

HENRY A. FISKE, Secretary, care of General Fire Extinguisher Co.,
275 West Exchange Street, Providence, R. I.

"Our President" Wilson wishes something could be done to wake up the class, even the "dead ones." Wait until the majors and colonels come home and we will have a real celebration. He had another letter from Tappan who was still doing active work in France. Tappan commented on the fact that the French speak freely of emigrating to our country after the war, fearing high prices and high taxes at home. Any one would think by this that we do not have any high prices or high taxes here.

A letter from Morris Knowles reads as follows:

"Since finishing our construction work at Camp Meade, about a year ago, most of my time has been with the United States Shipping Board, Emergency Fleet Corporation, where I am chief engineer of the Housing Division. Our offices were first in Washington, but owing to congestion there we moved to Philadelphia, 253 North Broad Street, where we are maintaining a complete engineering organization. Our work has been extremely interesting, consisting of the supervision of engineering design and construction of more than thirty industrial towns and cities situated at the various shipyards along the Atlantic Coast and on the Great Lakes. The projected population of these towns exceeds fifty thousand. Our work has been practically unaffected by the armistice and is being pushed through to completion.

Our Pittsburgh organization has been actively engaged during this period largely on utilities and housing work in connection with the war, among other things being the design and construction of facilities at Camp McClellan, Ala., where enlargements and extensions have been in progress.

We still maintain our Canadian office at Windsor, Ontario, and work on the metropolitan sewerage and water district of the Essex Border Utilities Commission is progressing.

The following is taken from the "Standard," a weekly insurance publication:

Henry A. Fiske, for the past three years a member of the well known Boston firm of Gilmour, Rothery & Company, will retire from that connection, January 1, to join the executive staff of the General Fire Extinguisher Company of Providence, known throughout the business world as the manufacturers of the Grinnell sprinklers, dry valves and other approved fire prevention appliances.

By the change, Mr. Fiske returns to fire prevention work in which he was trained and has had broad and valuable experience, first as an inspector and later as manager of the Underwriters' Bureau of New England; as manager of the Special Risks Department of the Phoenix of Hartford; as a New York partner of Henry W. Brown and Company of Philadelphia and New York, a leading brokerage concern, and for the past few years as a partner of Gilmour, Rothery & Company, one of the most successful offices in New England.

"His training in fire prevention work has given him a national reputation, as also the fact that he is one of the authors of the Crosby-Fiske Hand Book, an authoritative work now in its fifth edition. Mr. Fiske was the original editor of the "National Fire Protection Association Quarterly," and active in the association work for many years.

The secretary's business headquarters from now on will be care General Fire Extinguisher Co., 275 West Exchange Street, Providence, R. I.

The secretary is anxious to secure up-to-date news from those who have been on the other side or who have been actively engaged in war work. Have any of you heard from Campbell, Leeming or Scudder, all of whom are, presumably, still in Europe?

William Mossman died December 13, 1918. Word received January 8, 1919.

1892

GEORGE H. INGRAHAM, Secretary, 2040 E. 107th Street, Cleveland, Ohio

CHARLES H. CHASE, Assistant Secretary, Tufts College, Mass.

C. F. Wallace has withdrawn from the Stone & Webster organization and has entered the service of the Government in the Emergency Fleet Corporation with headquarters at Philadelphia.

C. A. Beal has returned from Japan and his new address is 417 Park Street, Montclair, N. J.

The following new addresses have also been received: Maj. Severance Burrage 72, Highland Street, West Newton, Mass.; Capt. W. R. Kales, 350 Burns Avenue, Detroit, Mich.; J. B. Lukes, 650 McKinley Avenue, Aberdeen, Washington, D. C.

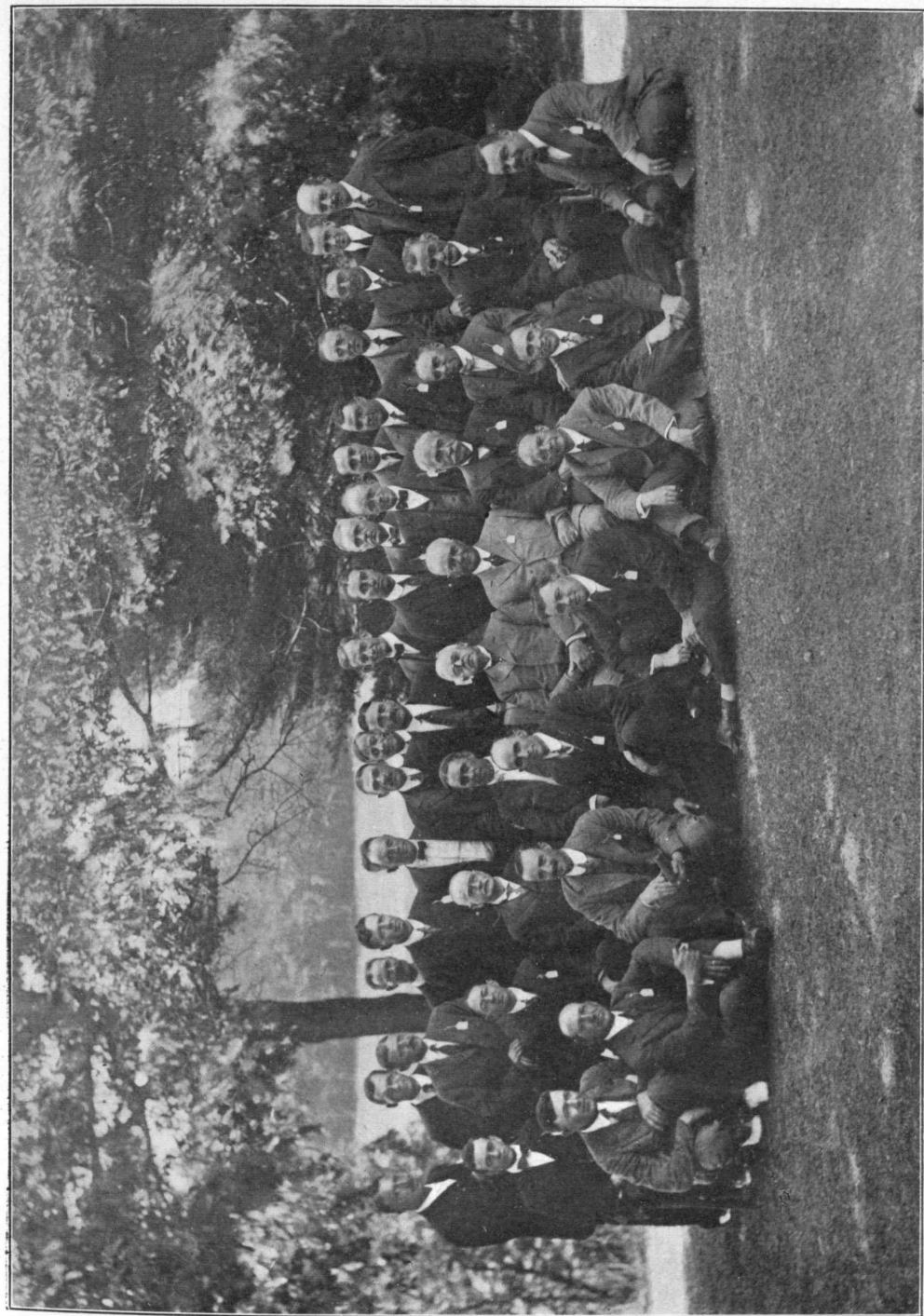
1893

FREDERIC H. FAY, Secretary, 308 Boylston Street, Boston, Mass.

GEORGE B. GLIDDEN, Assistant Secretary, 551 Tremont Street, Boston, Mass.

War duties on the part of the class officers have seriously interfered with their duties to the class during the past few months, which accounts for the lack of '93 class news in recent numbers of the REVIEW.

Owing to the war, the twenty-fifth anniversary was a very modest affair, and consisted of a reunion at Marblehead Neck, Mass., on the afternoon and evening of June 24. The headquarters of the class were at the Eastern Yacht Club. Members were entertained at luncheon by Henry Morss at his home near the Club. In the afternoon a part of the members, through the courtesy of Morss, made a trip in his power boat "Thais" along the Beverly shore to Gloucester and return, while those who preferred golf enjoyed the privileges of the links of the Tedesco Country Club through the courtesy of Herbert N. Dawes. The Class Dinner was held at 7.30 o'clock at the Eastern Yacht Club, and brought out an attendance of twenty-four men. Following the dinner George B. Glidden gave a most interesting account of his trip in the late winter, as a member of a Liberty Loan Commission, to England



E. W. ROLLINS, '71, ENTERTAINS THE TECH CLUB OF NEW HAMPSHIRE, JUNE 30, 1918



JOHN A. HILDABOLT, '75

and France, where he was privileged to see first-hand, nearly every form of war activity, including even an experience under fire in the trenches. The total attendance at the reunion was twenty-eight, war activities preventing a large number of our members from attending.

William T. Barnes, member of the firm of Metcalf & Eddy, consulting engineers, who has been in charge of that firm's Chicago office for several years, has removed to Boston, his address being 14 Beacon Street, Boston, Mass.

Roy H. Beattie, from the beginning of 1918, did valuable war work as assistant manager of the wood division of the Emergency Fleet Corporation, United States Shipping Board, in charge of construction of wooden ships. In recognition of Mr. Beattie's work, one of the first three ships built by L. H. Shattuck, Inc., at Portsmouth, N. H., and launched on July 4 last, was named the Roy H. Beattie, and was christened by his daughter, Miss Helen Beattie of Fall River, Mass.

Stephen A. Breed was married on June 12 to Miss Laura Post, daughter of Dr. and Mrs. Abner Post of Boston.

Francis Wright Fabyan has recently been elected president of the Algonquin Club of Boston. This is all the more signal honor from the fact that in the twenty years or more of its existence, the Club has had but one president prior to Mr. Fabyan.

The firm of Fay, Spofford & Thorndike, of which the president and secretary of the class are members and the third member took some work with '93, have been engaged since January, 1918, as consulting engineers to the War Department, upon the design and construction of the Boston Army Supply Base, a twenty-eight million dollar project now nearly completed, at South Boston.

Frederic H. Fay, a director of the Boston Chamber of Commerce, was active during 1918 as a member of the Chamber's Committee on Port War Facilities, whose function was to urge the Federal Government to make a greater war use of the port of Boston. Recently he has been appointed by the mayor of Boston on the mayor's Committee on the Development of Foreign and Domestic Commerce.

Burt L. Fenner has for the past year been engaged in war work as secretary of the United States Housing Corporation of the Department of Labor at Washington. He is a New York architect of the firm of McKim, Mead & White. He is a native of Rochester, N. Y., and received his training at the University of Rochester and at the M. I. T. He began practice of his profession of architecture at Rochester, but in 1891 joined the staff of McKim, Mead & White, to which firm he was admitted as a partner in 1906.

Charles L. Norton, professor of Heat Measurements at M. I. T., and one of the leading experts in this country on all cases of heat and of fire protection, has been engaged in war work as a member of the inventions section of the general staff of the War Department, whose function has been to co-operate ten of the technical societies of the country, the Bureau of Standards and all war agencies created for testing projects of a military sort. To this group of combined civilian and military experts, inventors submitted their data.

William Brewster Page and Miss Dorothy June Beeber, daughter of Mrs. Kimball Harriman Beeber, of New York, were married in that city on November 24. Mr. and Mrs. Page reside at 124 Summer Street, Fitchburg, Mass.

J. Ramsey Speer has been doing war work on the staff of the Alien Property Custodian at Washington, having served as a director for several of the chemical concerns formerly owned by Germans. The Bayer Company was perhaps the largest and most potential of this group.

Cadwallader Washburn, the American etcher, has recently spent four months

in Siam as a result of which he made a series of interesting etchings of that country, rich in artistic interest, which were exhibited in Boston during November.

Washburn for a time was a student with the Class of '93, after which he studied under Chase and under Mowbray at the Art Students' League of New York, under Sorolla in Spain, and Besnard in Paris. He has been awarded the second prize of the Paris-American Art Association, and the gold medal of the Panama-Pacific International Exposition.

A great traveler, he has spent several winters in Mexico and has brought home many admirable scenes of trips in that country. His travels, however, have taken him pretty much over the world. He is a son of former Senator Washburn of Minnesota.

Some recent changes of address: Charles V. Allen, Apartado (P. O. Box) 76 Bis, Mexico City, Mexico.—S. H. Brockunier Chateaugay Ore & Iron Company, Lyon Mountain, N. Y.—Joseph W. Ellms, 1263 Cook Avenue, Lakewood, Cuyahoga County, Ohio.—Samuel D. Dodge, Mahwah, N. J.—Lieut. George Gruppy, Sig. R. C. A. S., care of Adjutant General of Army, Washington, D. C.—Harry M. Latham, 30 Sever Street, Worcester, Mass.—Edward S. Page, Wellington & Page, 401 Pemberton Building, Boston, Mass.—Philip E. Perry, P. O. Box 2275, Boston, Mass.—Major Henry L. Rice, 326 Botetourt Street, Norfolk, Va.

1895

W. D. PARKER, Secretary, 12 Bosworth Street, Boston, Mass.

From a Rochester, N. Y., paper of December 28, 1918, the following interesting item is reprinted:

The Board of Education established a new precedent yesterday when it elected Charles F. Wray its president, to succeed J. Warrant Castleman, who has been named Special County Judge. This is the first time in the board's history that the youngest member in point of service has been elected to a commanding office.

Mr. Wray succeeded Howard A. Barrows as school commissioner in August, 1916. He is director of the Genesee Valley Trust Company, member of the board of managers of Hahnemann Hospital, a trustee of the People's Rescue Mission and manager and treasurer of the State Agricultural and Industrial School of Industry.

It was not generally thought that the new president would accept the nomination, owing to the demand his large business interests make on his time. He is secretary and treasurer of the Henry Wray and Sons brass foundry, one of the oldest Rochester concerns, and also of the National Brass Manufacturing Company.

His grandfather, Henry Wray, was a member of the Board of Education at the time when Mayor Edgerton was president, coming to Rochester from England in 1842, and establishing at that time the present firm of Henry Wray and Sons.

Mr. Wray's education was received in the Rochester public schools and the Massachusetts Institute of Technology, where he was graduated in 1895.

On the eighteenth of September the secretary wrote to T. H. Wiggin, now a major overseas, and on the week of the fifteenth of December received a most interesting reply. Under date of October 27, he writes from France as follows:

MY DEAR PARKER:

You put your request for news of my doings in such a persuasive way that I am going to try and write something, though fifteen months of trying to write without saying anything forbidden by censorship rules seems to have dried up what formerly was a fairly facile pen.

This constant damming of natural mental outlets is depressing beyond reckoning and turns correspondence with family and friends into a farce. The necessity of the censorship is of course recognized but when some magazine writer comes out with an

article on new machine guns, air service plans or some other sacred topic it seems for a time like wasted hardship.

Some of the earlier attempts at secrecy, when looked back on, seem like vaudeville, and the story writers have already begun to use them for humorous articles. The attempt that bothered me most was that of limiting the use of maps. At least a considerable part of the principal engineering office of the Line of Communications of the A. E. F. worked for some weeks in the summer of 1917 without marking the location of its numerous construction projects on any map. Gradually this was changed until now all important offices have wall maps with tags on pins showing where and what the projects are.

But I am "stalling" like a bather before plunging into cold water. The territory occupied by the A. E. F. is divided into two main parts, that occupied by the combatant troops or "armies," and that occupied by the "Service of Supplies," or "S. O. S.," previously called "Line of Communications" and "Service of the Rear."

I have been from the beginning in the S. O. S., and my acquaintance with the front is limited to very infrequent visits. While I have experienced the thrills of watching for submarines, of watching aeroplane raids on Paris, and listening to the explosions of the shells of the "canon de longue portee" in Paris, and have spent some days in areas near the lines where nightly aeroplane raids of very serious extent took place, I have never yet been in the trenches under shell fire nor stayed even in the areas near the front where long range shells frequently drop on important places like road crossings, railheads, material dumps, etc.

It is a very tame war for a very large number of us in the S. O. S., but it is full of hard, plugging labor, for long hours and generally seven days a week for those in positions of responsibility, though Sunday afternoon is generally free.

I have been since September, 1917, in charge of the Water Supply Section of the S. O. S. This section is simply one of the several branches of the engineering department. We are mixed up with every project, whether hospital, dock, air field, artillery shop, ice plant, railroad terminal or roadside stop, because water supply is an appurtenance of them all. Incidentally, the Water Supply Section also handles sewerage.

Up to last June we had a centralized organization, men going out from the central office to get data and then coming back to plan the work. Construction was done by local troops, generally transient, under the supervision of more or less permanently stationed engineering organizations. The central office did not by any means cover all the small projects but went where need was.

Latterly the work has been more decentralized, France in the S. O. S. being divided into nine sections, each in charge of a section engineer under whom all engineering work comes. The central office has supervisory functions and there are still occasional gaps to be filled by men from the central office.

In nearly all of the sections is a fully equipped chemical and bacteriological laboratory for water analysis, reporting to the engineers. This is an innovation in the United States Army, as such work has in the past been done by the medical department. Some very broad-minded medical department officials, among whom are the new Surgeon-General, Major-General Ireland, and the new Chief Surgeon, A. E. F., Col. W. D. McCaw, co-operated with Col. F. F. Longley, West Point, 1902, later M. I. T., '05, special student, in placing the water laboratory work of the A. E. F. on a similar footing to that of cities and states in America. Laboratory men were commissioned in the Sanitary Corps or Engineers Corps, and placed in charge of these laboratories, and all the water supplies in France are subject to their periodic inspection and analysis.

The water supplies are not large in comparison with those in America. At first we allowed twenty-five gallons per capita for hospitals and ten gallons for camps. Now we have cut the hospital allowance to fourteen gallons per capita. Hospitals vary in size from three hundred to twenty thousand beds. Those of the latter size, none of which are yet wholly completed, will have a total population of about fifty thousand people, including personnel and patients in what is called the "crisis expansion," which is placed in tents and doubles the nominal capacity. Such a hospital, even, would be supposed to use only six hundred and eighty thousand gallons of water per day, or about the same as any little American city or big town of eight or ten thousand inhabitants, and no important manufacturing interests. The building program calls for about fifteen per cent as many hospital beds as soldiers in France, so that to keep pace with the rapid influx of troops requires activity.

The ports, warehouse yards in many parts of France, the big camps near the ports, where troops first stop, the various ordnance and aeroplane shops, and the railroad terminals and roadside stations for watering locomotives keep a constant pressure on the construction forces. My office is the clearing house for such orders and correspondence as are required to initiate and follow up the water supply and sewerage for all these projects. This correspondence is prepared for or handled in the name of the higher officers in whose hands are the engineering matters of the S. O. S.

The work includes dams, pipe lines up to twenty-four inches in size, but generally not over twelve inches, rapid sand filter plants, tube wells up to a depth of fifteen hundred feet, an occasional water softening plant and many apparatus for applying liquid chlorine. Pumps are mostly centrifugal, driven by automobile type gasoline engines. A good many triplex and simple plunger pumps are also used, also piston well pumps, air lifts, and duplex steam pumps. The centrifugal pumps are many of them made by the well known French firm, Rateau, and by dint of belt speeds up to forty-five hundred feet per minute and engine speeds of sixteen hundred revolutions per minute we get heads up to three hundred feet in a single-stage pump. I wouldn't recommend these extreme applications for peace-time installations, but they are small, light, easily manufactured and not inefficient.

Probably the most important single function of our office is the predicting of needs in the six hundred articles of water supply material required to run the A. E. F. Pipes and fittings of all kinds from three-eighths-inch to 24-inch in quantity totalling many miles per month, pumps, boilers, tanks, filters, shower baths, electric motors, engines, railroad stand pipes, liquid chlorine, well machines, etc., in all necessary sizes have to be painfully listed month by month so that they may be ordered by cable four months ahead of the time of use or even double that time to permit manufacture. A constant scouring of the British and French markets is also required to reduce trans-Atlantic tonnage and fill in gaps where America fails to "come across." Our office, though technically not a purchasing office, does a lot of hunting and following up, and originates many orders in Europe. A bird in the hand is the biggest asset in this war game and quick changing of plans is often necessary to use what can be had when the ordered material is too slow in coming.

There was one period of grim uncertainty this spring when the Germans pushed in toward Amiens and Paris, and the roll was called in the S. O. S. so that our force might be ready to join the defenders even if the S. O. S. work mostly stopped.

I have had a good many chances to see France in a very hurried and incidental way in my travels around the various projects. What French I possessed has had crude practice since my arrival and I have managed in general without interpreters, who are usually too ignorant of engineering matters to be of much help. There has been little time to study French, and the relatively small part of each day spent in murdering the language I find does not conduce to perfection or even much improvement in speaking, though it does help in understanding the spoken language. I realize, though, that an adjustment has taken place in the fifteen months and I feel at home so far as dealing with and being among the French are concerned. If one's family could be along, too, there would be no hardship in living in France, though I would never have thought to call it "sunny." It is frequently cloudy, often drizzly, but I have never seen it rainy enough to help out when the reservoir runs short of water. Heavy downpours and high winds are practically unknown so far as I have seen, and the rainfall is less than half of that at Boston or New York.

I have taken you at your word and told you about my work. I could have written about some customs, donkey and dog carts and many strange types of cart, all of which interest one greatly, ancient chateaux and dungeons, pate de foie gras, brands of wine (which I have sampled in many parts of France, but which do not compare in my benighted opinion with good New England cider about two weeks old), the beauty of France, etc., but I have already filled too much space.

With kind regards and greetings to M. I. T., and especially my classmates of '95, I am,

Very sincerely yours,

THOMAS H. WIGGIN,

Major Engineers, U. S. A., A. E. F., Tours, France.

F. A. Bourne, IV, was appointed October 15 by the trustees, head of the Fine Arts Department of the Boston Public Library. Soon after graduation Bourne became connected with this department and has given much time, principally evenings, to furthering its work. Now, however, he will give a portion of the day also to the department and will endeavor to create a wider popularity for it. Among other things, he has in mind the assembling of a large amount of data relative to post-war reconstruction in Europe. Bourne will continue to maintain his Boston office for the practice of his profession.

Since the last issue of the REVIEW three members of the class have died: Charles D. Waterbury, IV, an associate member of the class; Emerson H. Strickler, V, a post-graduate; and John L. Newell, X.

From "The Tech" of October 30:

Charles Dann Waterbury, captain, Q. M. C., of the Engineering Branch of the Construction Division of the Army, died in Walter Reid Military Hospital, Washington, D. C., on Wednesday, October 9, of bronchial pneumonia, following influenza. Captain Waterbury had charge of the drafting room, serving in his professional capacity as architectural engineer. He was buried Tuesday, October 15, 1918, in the Officers' Section of Arlington National Cemetery, Washington, with military honors.

He leaves a widow, whose brother was also an 1895 (Course X) M. I. T. man, Judson C. Dickerman. Captain Waterbury came to the Construction Division in May, 1918, occupying same position after being commissioned as before.

From the Baltimore "Sun" of November 26:

Emerson H. Strickler, eldest child of Mrs. Fianna Strickler, this city, died in New York, November 22, from a complication of diseases. He was the son of the late Bishop Henry Strickler and Mrs. Fianna Strickler, and was born April 12, 1869. He was a graduate of the Johns Hopkins University, Baltimore, and took a post-graduate course at the Boston Institute of Technology. He was a chemical engineer, and at the time of his death was a director of the General Chemical Company, of New York. He is survived by his mother, a brother, A. B. Strickler, general manager of the York Manufacturing Company, York.

In the death of Newell the class loses one of its best known members, particularly among the Boston alumni, and one of those most loyal to it. Note of his passing was given prominence in several of the Boston papers. The accompanying appreciation by Rockwell, a close friend of Newell through boyhood and undergraduate days and up to the close of his life, fittingly estimates his character and expresses the regard in which he was held by those who knew him.

John Louis Newell, an ex-president of the class of '95, died of pneumonia on October 21, 1918, after an illness of about a week. He was born on January 12, 1874, and was educated at the Roxbury Latin School, at the Massachusetts Institute of Technology from which he was graduated in 1895, in course X, and at Boston University Law School, from which he was graduated in 1899. He was admitted to the bar in 1899 and for a number of years and up to the time of his death was one of the partners of Rackemann & Brewster, a law firm of the very highest standing in Boston. He was recognized generally as an expert in the law of property, in which he specialized.

On September 19, 1900, Newell married Miss Katherine M. Hall of Brookline, Mass., who, together with three children, survives him.

His patriotism during the late war was shown in many ways, and particularly by his work as a member of the Legal Advisory Board of Brookline, and as a member of the Home Guard of Brookline, and it is likely that his conscientious performance of his duties as a member of the Legal Advisory Board during the dangers of the recent epidemic and up to within a few days of his illness, prepared the way for his untimely death. He seriously considered entering the service although entitled to deferred classification.

He was president of '95 from 1910 to 1913, and caused a vigorous reawakening of the class spirit not only at the memorable reunion at Squam Lake, but on numerous

other occasions, administering his office throughout his term with notable success and increasing the strong hold he had always had on the affection and esteem of the class.

The same high character which made his home life a model and which made his professional reputation so enviable endeared him to the class, and we shall indeed miss him sorely but we shall have always in our memory the vivid picture of a real man, sterling and true.

GEORGE ARNOLD ROCKWELL, X.

Changes of address: Brig.-Gen. Dwight E. Aultman, War Department, Washington, D. C.—Capt. De Nise Burkhalter, Engineers U. R., U. S. Army, P. O. 701, Camp No. 3, A. E. F.—Frank B. Masters, 10 Fenwick Road, Winchester, Mass.—Maj. Charles A. Meserve, care Mrs. Mary L. Meserve, Gorham, Me.—Capt. Harry J. Sheafe, Belvedere, Marin County, Cal.

1896

CHARLES E. LOCKE, Secretary, M. I. T., Cambridge, Mass.

J. ARNOLD ROCKWELL, Assistant Secretary, 24 Garden Street, Cambridge, Mass.

A few items have come to the notice of the secretary regarding the men who are in service.

Johnny Rockwell writes his wife fairly regularly but does not seem to care much about his classmates. Since last July he has been major of Base Hospital No. 44 in France and reports that never before in his life has he seen so much to do or has ever worked so hard. The hospital holds about 1700 patients and is located at a famous watering resort about the middle of France. Those of us who knew Johnny intimately when he was doing about thirty-six hours of work every day will find it hard to realize that it is possible for him to work any harder in France than he did in America.

Since the war closed the secretary has received Christmas greetings from John to the whole class and the expression of a hope that as soon as he returns we will be able to get together for a regular old-fashioned class dinner, when he can tell how he won the war.

Billy Anderson, who went over with the engineers, has, as far as the secretary knows, not been active in France, but his experience in business and as an organizer made him such a valuable man that his work has been largely in London along executive lines.

Jim Hayes wrote recently from Rochester to the effect that one of the members of Anderson's Concrete Construction Company was recently in Rochester and told Hayes that Billy was expected home very shortly.

Guptill has sent the first installment of the log of his experiences as engineer, and it is so interesting that the secretary is going to give it in full in spite of the editor's request to condense all letters as far as possible. It is written from A. P. O. 713 in France:

The month of August never gave birth to a more beautiful day than that of the sixteenth in the summer of 1918, the day that the English ship, "Euripides" pulled out from its New York dock with our contingent aboard for its trip overseas. It was hard to realize in the bright sunshine and the soft southwest breeze that we were headed for what every one knew to be far more strenuous times than we had hitherto known. Even the destroyers dancing about, the dirigibles, now overhead, now in advance, the waving of handkerchiefs and hats from passing ferry boats and other craft only tended to further the impressions of a fete day. We were joined before we lost sight of land by the other transports which were to make up

the convoy, fifteen besides the "Euripides," which, as we soon found, was the largest and best boat of the fleet, and we took, during the entire trip, one of the advance flank positions, due to the fact, no doubt, that the "Euripides" was well armed.

Affairs on board ship ran very smoothly after the men grew accustomed to their close quarters, which were very close indeed, and the rations, which were too small, had been bettered somewhat. Every one was kept busy with boat drills, deck drills and the regular company routine, the posting of guards and submarine look-outs. As the weather continued fine and everybody in good spirits, several entertainments were arranged for on deck; boxing bouts, wrestling, and song and dance sketches helped to while away the time very pleasantly. Everybody was of course on the watch for submarines and the submarine lookouts had strong reinforcements at times; all in vain, however, as no subs were sighted during the entire trip. Compasses were also much in use, and it was interesting to note the sudden changes of course from north northeast to southeast or south, we often made long runs directly south. All of us would have much preferred sailing down the Irish Sea by daylight; as it was, we came in sight of land about dark and the visibility was further decreased by a fine drizzle which had been with us for two days, so that our only memory of that section of the trip is a vague outline of coast, first to starboard and then to port, intermittently touched up by a glow of light as we passed some coast signal or small town. The landing at Liverpool was uneventful, excepting in the matter of delay, and about three o'clock in the afternoon we pulled out on one of the dinky trains en route for Romsey. Now we didn't know what Romsey was like and had we known, we should have had to go there anyway, so we will let it pass. At any rate, we arrived there somewhere between midnight and morning which, we were to well discover thereafter, seemed to be the one section on the face of the clock reserved for arrivals and departures. After being shown the enclosure in which we were to collect, or rather bivouac, we were more or less left to our own devices as to how to make ourselves comfortable for the night. We succeeded very well however, much to our surprise.

The officers' mess (to be taken as it reads, quite literally) was a distinct departure from all that we had so far gathered in our military education. Set under a covering of canvas in close proximity, apparently, to the birthplace of a multitude of yellow jackets, it had all the features requisite for the expediting of matters and a snappy session at the tea table. The complete meal was served to each one on a single plate, no doubt in order to better protect it from the yellow jackets and, then anyway, it didn't require more than one plate to hold it.

Here at Romsey occurred my first misfortune. The blankets which were passed on to me by my predecessor, and it has never been determined whether it was done as a joke or not, contained a flea, or perhaps fleas. Now to most people this wouldn't matter, but a flea bite is very poisonous to me, and so shortly I was covered with blotches as big as a ha'penny. In vain were the blankets aired and shaken, the flea still clung on, made desperate no doubt by the fact that the nights had become very frosty. A "fini." And it was not until we had left Romsey and were on our way that the marks of my encounter entirely disappeared.

A hike to Southampton, a swift passage across the Channel at night on the speedy little terrier, "Yale," and we were at Le Havre. Then after a three-hour hike, mostly uphill, we were at the rest camp (?) where we went into quarters for two days. There is no question but that the persons who had the laying out of this camp had, at some time, been to New England and had imbibed some New England ideas. The little huts to which the officers were assigned were very similar, in a rough way, to the little houses one sees in the backyard of every New England home where a dozen hens are kept. Here, however, the officers were fortunate in obtaining meals at the Young Men's Christian Association, which were very good. The men were not so fortunate. Apparently the English powers that be had realized that they had made a mistake in their Romsey figures and had gone all over them again, but alas, either they got discouraged with the task or hadn't enough figures to finish out with or something, because the improvement was very noticeably down hill. At some meals the men were allowed as much as one egg apiece, but many of them claimed that they were being over-rationed at the expense of their comrades, that they were getting chicken instead of eggs and threw the eggs against the wall to prove it.

From Le Havre to Gievres is a short cry but a long haul, especially in box cars and with cold rations, but we made it, and after building barracks in two days of

heavy rain, moving in, and getting Uncle Sam's groceryman in the habit of calling at the back door, we were all ready to take our part in what was to come next.

This brings the narrative up to September 6, 1918, and it is expected that it will continue in serial form.

Charley Hyde was in Boston in December and the secretary saw him for only a very few minutes and left him with the understanding that a longer session would be held, but somehow we failed to connect. Charley has been doing work in camps along sanitation lines and has the rank of major. Officially his duties are general supervision of water supplies, sanitation, etc. Just now he is in the Sanitary Corps of the Surgeon-General's office in Washington and his address is: 1872 California Street, Washington, D. C.

Another man who has been laboring hard for the Government is Joe Knight, who has been counsel for the War Labor Board, and this work has kept him constantly in Washington. He has been so busy that the secretary has been unable to get any word out of him regarding his duties.

Another item which the secretary thought was going to reflect the glory of '96 proved to be a false lead. The newspapers stated that Col. Clarence Culver had made a most important invention in connection with aeroplanes, and the secretary immediately thought of our classmate of this name, but faithful sleuthing, with the assistance of Jim Haste, proved that our Clarence was leading a quiet, domestic life in Rochester, N. Y., and that Colonel Clarence was another party entirely.

The following regarding Perkins is taken from the Boston " Transcript," of December 7, 1918. He was a member of Course IX, whom his classmates recall as a quiet man, taking special work at the Institute.

Dr. Thomas T. Perkins, of Cliftondale, died of heart failure, on Friday, while attending the young son of Mr. and Mrs. Ernest A. Hogdon of Cliftondale. Dr. Perkins, who worked night and day during the influenza epidemic, had been suffering with heart trouble for some time. His automobile was out of order, so he walked through the snow to the Hogdon home. Upon his arrival he complained of not feeling well and died almost immediately. Dr. Perkins was forty-four years old. He was school physician of Cliftondale.

Frederic William Smyser died last summer. Word has just been received at the Alumni Office January 4, 1919.

Jacobs and his bride came down to Boston from Burlington over the Christmas holidays.

The following changes of address are to be noted: Lieut. Robert C. Clark, 625 Peach Tree Street, Atlanta, Ga. — Mr. Willard H. Colman, Hopewell, N. J. — Capt. Calvin I. Crocker, Engineer Reserve Corps, Camp Lee, Va. — Mr. Frederick M. Heermann, 147 Irving Avenue, Providence, R. I. — Capt. Benjamin Hurd, V.P., 64 Park Place, Newark, N. J. — Maj. Walter J. Mayo, Foxcroft, Me. — Maj. H. D. Ranson, 2d in Command Supervising Constructing, 7 and B Streets, Washington, D. C. — Mr. Frederick F. Schaller, 4314 9th Street, N. W., Washington, D. C.

1898

A. A. BLANCHARD, Secretary, M. I. T., Cambridge, Mass.

On November 9, 1918, Dick Brown married Mrs. Marion Browne-Sturrock. They will reside at Hotel Chatham, New York.

The following clipping is taken from the Springfield "Republican" of July 11, but reached us too late to appear in an earlier issue:

Announcement was received in this city, July 5, that Lieut. Burton A. Adams of this city has been promoted to a captaincy in the United States Army to act as the chief base censor of the American Expeditionary Forces in France. Mrs. Adams, of 41 Irvington Avenue, received a cablegram from the captain telling of his appointment. He will have the responsibility for the censorship of all the mail leaving the American forces and for that purpose will have a large clerical force under him. The work of censorship is increasing rapidly as the forces in France are enlarged. Captain Adams was born in Essex forty-three years ago and was educated in the public schools there. In 1898 he was graduated from the Massachusetts Institute of Technology and the next year he came to Springfield. He had charge of the forging department of the Technical High School after that time. Three years ago he joined the old Massachusetts 2d Regiment and held the rank of lieutenant when the regiment went to the Mexican border. He became 1st lieutenant of Co. G, 104th Regiment, last October. He has of late been detached from his regiment for duty in the office of the base censor.

Major Milan V. Ayres, VI, has resigned as senior electrical engineer for the eastern district, Bureau of Valuation of the Interstate Commerce Commission, to accept an appointment as major in the National Army. Mr. Ayres was born in Kansas in 1875 and at the age of twenty-three was graduated from the electrical department of the Massachusetts Institute of Technology. He first entered the employ of the General Electric Company at Schenectady in the testing department. In 1903 he became electrical and mechanical engineer for the Boston & Worcester Street Railway, South Framingham, Mass., continuing in that position until July, 1911, when he became assistant to the general manager of the Rockland Light and Power Company, Nyack, N. Y. In November of the same year he resigned to become chief engineer of the Mobile (Ala.) Light and Railroad Company. The following year he went with Ford, Bacon & Davis, consulting engineers, New York City, where he stayed until he became connected with the Interstate Commerce Commission in the spring of 1914.

Samuel Fosdick Jones, VII, is a major in the Medical Corps, U. S. A., stationed at U. S. A. General Hospital No. 12, Biltmore, N. C., in charge of the Orthopedic Division.

Miss Frances G. Curtis, re-elected a member of the school committee of Boston, was born in Boston and has always made her home in this city. Her early education was received in private schools, followed by a course at Radcliffe, two years at the school of the Museum of Fine Arts, a year at the Massachusetts Institute of Technology, where she studied sanitary engineering. For several years Miss Curtis was director of the Boston Co-operative Building Company, a director of the Associated Charities, of the Society for Helping Destitute Mothers and Infants and of the playground commission. She was a member of the state board of charity for fifteen years and has done a great deal of social service work. Miss Curtis has been a member of the school committee for six years, and her work has been highly commended by educators.

The present address of Van Rensselaer Lansingh, VI, is 20 Charlesgate West, Boston, Mass. Business, Metz Company, Waltham, Mass.

News is just received of the death of Luther A. Crowell at the Stamford, Conn., hospital, of bronchial pneumonia, on November 1, 1918. He was ill less than one week. The funeral was at his old home, West Dennis, Mass. Crowell, as many of us will remember, was in business with the Yale & Towne Manufacturing Company of Stamford, makers of Yale locks. He was married in 1910 to Emma Howland of Boston.

1899

WILLIAM M. CORSE, Secretary, care Ohio Brass Company, Mansfield, Ohio.

The following notes are all that I seem to be able to get for the January REVIEW:

Miles S. Sherrill writes me that he is going to be married in January to Miss Mary Kellogg of Winchester, Mass. Congratulations to Miles. He has been located for the past six months in Washington on government work, but expects to finish there about Christmas time.

Walter Huniman X, Major Ordnance Department, U. S. A., A. I. of O., is inspector of ordnance at the Remington Arms U. M. C. Company, Bridgeport, Conn.

George O. Jackson, who is located at 16 St. Nicholas Place, New York City, writes that the letter from McBride in a recent number of the REVIEW enabled him to locate McBride, besides giving him interesting information.

William M. Corse moved from Buffalo, N. Y., to Mansfield, Ohio, and is now connected with the Ohio Brass Company of that city in the capacity of manufacturing superintendent.

1900

INGERSOLL BOWDITCH, Secretary, 111 Devonshire Street, Boston, Mass.

Now that the war is practically over and there is very little chance of many more classmates entering the service, it has occurred to some of us that the class should publish a list of those members who have entered the service and who have given their time to Government work. The secretary would be glad of any suggestions as to the form this publication should take. Should it be confined to just a list of names and the branch of the service in which they served or a short account of the men's experiences? Let every classmate consider these points and let nobody hesitate to write what he thinks. The more suggestions, the better the result.

Albert G. A. Schmidt has left Chicago without leaving his new address. Can any classmate furnish any information concerning him?

Bugbee has been appointed Assistant Director of Education for the S. A. T. C., with headquarters at Raleigh, N. C., for the five southern states, Virginia, North Carolina, South Carolina, Georgia and Florida. Owing to the change in plans of the Government, Bugbee probably will be deprived of his pleasant winter at fashionable southern resorts.

The following are the changes of address which have been received since the last letter:

J. H. Batcheller, 287 Walnut Street, Brookline, Mass.—Ensign Raymond D. Borden, 739 Rock Street, Fall River, Mass.—Major Leigh S. Keith, 3531 Holmead Place, Washington, D. C.—Major N. J. Neall, United Service Club, Dupont Circle, Washington, D. C.—Lieut. Fred L. Townley, 218 Worthington Avenue, Station R, Cincinnati, Ohio.—Percival E. True, Box 475, Elgin, Ill.—Warren C. Tudbury, 2704 Derby Street, Berkeley, Cal.—Harry M. Harps, Captain, Engineers, U. S. A., Camp Humphreys, Va.

1901

ROBERT L. WILLIAMS, Secretary,
107 Waban Hill Road North, Chestnut Hill, Mass.

Arthur J. Eveland is a mining engineer for the American Zinc, Lead Smelting Company of Boston. For several months he expects to be in Mexico City, located at the University Club. He writes:

Rarely see any '01 men. Have spent most of my time abroad. Five years in the Far East, three of which as the geologist to the Mining Bureau of the Government of the Philippine Islands, later examination work in Mexico, Central America, South America in Peru, Bolivia, Chile, Argentina and Venezuela. Met C. H. Auer lately in El Paso; Fleming and Sears in Salt Lake City.

Henry R. Gilson is a consulting engineer for the United States Rubber Company, New York City. He says:

I spent three very interesting months in England, and at the end of 1917 went through three Zeppelin raids on London and saw two of them brought down in flames by airplanes. The voyages over and back were extremely interesting, and the whole experience one I shall never forget. Oftentimes in London at night or in the early hours of the morning, from one to three, we could hear the guns in Flanders. They sounded like distant thunder. I guess we are all glad that this terrible conflict is over, but I do wish that our boys could have gotten into Germany and given them a taste of their own medicine."

Professor Edwin F. Church has been recently appointed acting head of the mechanical engineering department of the Brooklyn Polytechnic Institute, having been connected for some time with the University of West Virginia.

R. H. Stearns, after four months spent in the Canadian Rockies and Vancouver, is now located in Washington, D. C., with the Bureau of Yards and Docks, as assistant civil engineer. His work consists of getting out contracts for naval stations structures, particularly water works. He also assists the project manager, having charge of all radio structures, fuel oil storage stations, and marine corps barracks.

The Honolulu "Star-Bulletin" has the following concerning Lyman H. Bigelow:

Efficiency all the way through! This will be the keynote of the administration of Lyman H. Bigelow, new superintendent of public works. "You had better give me a few days to 'get into harness' before you ask me to comment on any new policies of the office," Mr. Bigelow told a representative of the "Star-Bulletin." "As a matter of fact, I haven't formulated any policies yet. But you may say this much for me: That efficiency is going to be a prime factor in my office. I believe in efficiency all the way through." For the present Superintendent Bigelow will make no changes in his office staff. One of his first duties will be to select an assistant superintendent; and this man, says the superintendent, will have to be a trained engineer and one thoroughly familiar with work such as is carried on by the office. The new superintendent does not intend to tolerate untrained men on his staff. Engineers, draftsmen, surveyors, will have to be trained, efficient and capable. Untrained men now in the employ of the department will be replaced by trained men, says the superintendent. Mr. Bigelow will also be chairman ex officio of the Board of Harbor Commissioners and will attend his first meeting next Wednesday afternoon. Recently Mr. Bigelow visited Hawaii and familiarized himself with wharves, landings, bays and general conditions on that island.

Mortimer B. Foster is Chief of Miscellaneous Section of the War Industries Board, Washington, D. C.

The following changes in address have been received:

Dennis F. Haley, 822 A. C. Foster Building, Denver, Col.—Louis R. Henrich, 11 Virginia Road, Auburndale, Mass.—Prof. A. B. McDaniel, P. O. Box 1319, Washington, D. C.—Angus A. McInnes, 41 Salcombe Street, Dorchester, Mass.—Philip A. Potter, Room 316, Church Street, New York, N. Y.

1902

FREDERICK H. HUNTER, Secretary, Box 11, West Roxbury, Mass.

J. ALBERT ROBINSON, Assistant Secretary,

Care Research Division Federal Board for Vocational Training, Washington, D. C.

Maj. Lewis E. Moore is the first of our military members to be returned to civil life. Moore was commissioned as captain of engineers at the first Plattsburg Training Camp in 1917, and was soon assigned to special duty at Washington and later sent to France where his job, as at home, was bridges. He was active in settling standards and details and visited a considerable section of the Western Front in looking up the needs and pushing the construction of his special work. In September, 1917, he was sent back to this country to speed up the fabrication and shipment of bridge work, and was getting matters in shape for an early return to France when the game was called. Moore remained on this side and was mustered out in time to reach his home in Newtonville, Mass., on Christmas Eve. On the first of the year he took up his duties as bridge engineer with the Massachusetts Public Service Commission.—Barry has been advanced to the rank of lieutenant-colonel in the Quartermasters' Corps, being the first as far as we have heard among our classmates to wear the silver leaves. He is still stationed at Boston.—Maj. Charles G. Mixter of the Medical Corps is expected back in this country within a short time as this is written. His brother, Maj. William Jason Mixter, will probably remain in France for some time.—Rayne Adams went to France for the Red Cross last August in connection with construction work.

The Boston Circle of the class will miss a familiar and popular member in the removal of Robinson to Washington. "Robbie" recently resigned his position as special inspector in the Improved Risks Department of the New England Insurance Exchange to become special agent for safety and hygiene in the Research Division of the Federal Board for Vocational Education. The position is under Civil Service, Robinson having qualified in examination. At the start the work will be largely in studying the suitability of various occupations for the partly disabled soldiers, and the healthfulness and safety of the work.—Greeley was recently elected president of the Boston Architectural Club.—Hunter is conducting the course in Architectural Working Drawings at the Franklin Union this winter.

Rufus Mason Whittet died at his home in West Roxbury on the seventh of December, of pneumonia, following an attack of influenza. He had been ill but four days. Whittet entered Technology from Lowell, duly graduating in Course XI. He took a position at once in the Engineering Division of the Massachusetts State Department of Health, with which he was connected continuously until the time of his death. For some years he had been assistant chief engineer. For many years Whittet resided in Lowell, but after his marriage, in 1916, to Miss Effie Osgood Byron of Roxbury, he took up his residence in West Roxbury. An infant daughter, Helen Isabella, born on January 16, 1918, and his wife survive.

Whittet was active in Masonic circles, being a Knight Templar and a 32d Degree Mason; he was also a member of the American Society of Civil Engineers, and the Boston Society of Civil Engineers. He was author of many reports on various matters of sanitation in Massachusetts coming within the field of his department.

1903

MYRON H. CLARK, Secretary, 1790 Broadway, New York, N. Y.

RALPH H. NUTTER, Assistant Secretary, Box 274, Lynn, Mass.

Following is an extract taken from the Newark, N. J., "Call":

After a short illness from pneumonia, Albert William Pearson died at his home, 15 Ridgewood Avenue, West Orange, on October 20, and interment took place in Fairview Cemetery, Westfield, N. J. Mr. Pearson was thirty-seven years old. Some years ago he became interested in fire insurance and became widely known here and in the Middle Western states as a fire protection engineer, and for the past five years has been connected with Atlee Brown of 40 Clinton Street, Newark, N. J.

We are also very sorry to announce the death of Elmer F. Ricker of Quincy, Mass., who died from pneumonia, October 19, 1918.

The following is an extract from the Vermont "Phoenix" of Brattleboro:

W. F. Robertson has volunteered for military service in the Artillery. He passed the physical examination in Keene, October 18, and expected to go to Fort Munroe. Mr. Robertson has been very active in civilian war work, being chairman of the Public Safety Committee, local Food Administrator, and has also been in charge of War Stamp sales work. In addition to these duties he has been an enthusiastic and valuable member of the Liberty Loan Committee. Besides family ties, he leaves an extensive and prosperous paper manufacturing business to serve his country.

Robert Livermore is connected with the Second Company Engineers, Officers' Training School, Camp Humphreys, Va.—Paul R. Parker is now vice-president and general manager of the Benicia Shipbuilding Corporation, Benicia, Cal.—Louis W. Adams is now with the Ashland Iron and Mining Company, Ashland, Ky.

Rolf Raymond Newman has written Mr. Nutter as follows:

I am leaving in the morning on the Santa Fe Limited for Washington, D. C., bound for the Engineers' Student Training School at Camp A. A. Humphreys, Va.

I was examined and commissioned Captain of Engineers, U. S. A., by telegram dated October 22, 1918, and ordered to report at 403d Engineers' Training School, Fort Douglas, Utah (just outside Salt Lake City). I was there seven days and was transferred under date, November 7, to Camp Humphreys, and am on my way.

CHANGE OF ADDRESS

W. Lorrain Cook, care Suffern Company, 135 Broadway, New York, N. Y.—Capt. George C. Danforth, 602 Engineers, American Expeditionary Force.—Robert W. Daniels, 16 Harrison Street, Brookline, Mass.—Frank R. Farnham, Hollister, White & Company, 50 Congress Street, Boston, Mass.—J. Arch. Mears, 460 Riverside Drive, New York, N. Y.—Capt. David D. Mohler, care Mrs. Rebecca M. Mohler, 707 Willis Avenue, Syracuse, N. Y.—Paul R. Parker, Benicia Shipbuilding Corp., Benicia, Cal.—Sam G. Porter, 1018 First Avenue, S., Lethbridge, Alberta.—Frank D. Rathbun, Arizona Copper Company, Metcalf, Ariz.—William H. Whitcomb, P. O. Box 143, New Haven, Conn.

1904

HENRY W. STEVENS, Secretary, 39 Boylston Street, Boston, Mass.

AMASA M. HOLCOMBE, 610 Boatman's Bank Building, St. Louis, Mo.

After a vacation of several issues, we reappear with a few bits of information regarding some of our members.

Don Galusha has severed his connections with Stone & Webster, and is now

associated with Dwight P. Robinson & Company, Inc., Constructing and Consulting Engineers, with offices at 61 Broadway, New York.

Ed Parker has been appointed Federal Bank Examiner for the State of Maine, and has taken up his residence at Portland.

Walter Hadley is now assistant general superintendent of the Gary Works of the Illinois Steel Works.—Another of our members has crossed the Great Divide, as evidenced by the following clipping from the Brooklyn, N. Y., "Eagle," under date of October 18, 1918:

Edgar Field Smith, forty years old, of 80 Heyward Street, a civil engineer in the employ of the Department of Water Supply, died October 17 of pneumonia. Mr. Smith was born in Saxton's River, Vt., and was a graduate of the Vermont Academy, Boston University and the Massachusetts Institute of Technology. He was a member of the Society of Civil Engineers. Mr. Smith recently took up a summer residence in Southold, L. I., and the interment was in that town, following funeral services on October 21. He is survived by his wife, Caroline Anna Leicht; a son, Edgar, three years old; a sister, Mrs. Henry M. Brett of Miami, Fla., and two brothers, Walter Le Roy Smith, president of the Malden, Mass., Commercial School, and R. Eugene Smith, of Malden.

Mrs. John D. Mackay, of Quincy, is chairman of the Woman's Unit, National Council of Defence. Through her energetic efforts a great deal of clothing was collected, sent to the needy in Halifax; and in the recent Red Cross drive, four tons was the result.

The following lists show that the class of '04 has been of some service to our country in the late war. If any member of the class, who reads these notes, knows any other member of the class, whose name should be included in these lists, then the member mentioned above is requested to send such information to the secretary.

As given below, there are two lists, one for men in the military and naval service, and one for men who were engaged in civilian work aiding in the prosecution of the war. The secretary feels that there may be many other names eligible for both lists, and issues the above appeal for assistance in obtaining them.

IN MILITARY SERVICE DECEMBER 11, 1918

CHAMBERLIN, N., IV, 1st Lieut., School of Mil. Aero., Columbus, Ohio.

CHAPIN, HARRY G., I, 1st Lieut., 2d Avia. Center (Instruction), A. P. O. 717, A. E. F.

CRONIN, WALTER L., II, Officers Reserve Corps.

CUNNINGHAM, JOHN E., I, before the United States entered the war he was in the French-American Ambulance Field Service. Now in American International Shipbuilding Company, Phila.

EMERSON, MERTON L., I, Major, Chemical Warfare Service.

FERGUSON, WILLIAM B., XIII, Lieut.-Commdr., Constr. C., Navy Department, U. S. N.

GAENSLER, GEORGE R., III, Capt., Avia. Sec., S. O. R. C. On December, 1917, was ordered from Vancouver Barracks, Washington, with a detached squadron to work in a logging camp to increase the production of airplane and ship stock. In this camp, fir and Orford, or white cedar, are produced. The soldiers work side by side with civilian workers.

GODDARD, HERBERT W., II, Capt., O. D.

HADLEY, WALTER E., III, 1st Lieut., Eng. C.

HALE, RICHARD K., I, Lieut.-Col., 101st F. A., A. E. F.

HOLCOMBE, AMASA M., II, Major, Office of Chief of Ord., Washington, D. C., O. D.,

U. S. N. A.

- HOY, AUSTIN Y., XIII, 2d Lieut., 184th Siege Battery, Royal Garrison Artillery, British Exp. Force. Enlisted on March, 1916, was commissioned 2d lieutenant July 22, arrived in France September 8, and has been in line since.
- KEENAN, JOSEPH A., II, Priv., Dept. of Mil. Aero., War Dept. Expects to be a student flyer. Now at Mineola, N. Y., at Hazelhurst Field, No. 1.
- MCBRIDE, LEWIS B., XIII, Commander, Naval Construction, U. S. N., Naval Headquarters, London, England.
- MCENTEE, WILLIAM, XIII, Lieut.-Comdr., Constr. C., U. S. N.
- METCALF, EDWARD H., II, Machinists Mate, U. S. N. R. F.
- NICKERSON, FREDERIC, IV, 1st Lieut., Sig. C., Constr. Div., Avia. Sec.
- PHINNEY, ROBERT M., VI, 1st Lieut., 415th Ry. Tel. Batt'n, Sig. C., Vendome, France.
- POTTER, NATHANIEL R., II, Capt., O. D. Somewhere in France.
- SPILMAN, JOHN A., XIII, Lieut.-Comdr., Constr. C., U. S. N.
- WHEAT, GEORGE N., IV, Capt., care Director-General of Transportation, A. P. O. 717, A. E. F.
- WHIPPLE, LEYLAND C., V, Lieut., 302d F. A., Camp Devens, Mass.

IN GOVERNMENT SERVICE DECEMBER 11, 1918

- ATKINS, GEORGE E., XIII, Ass't to Naval Constructor, U. S. N.
- BASCOM, CALVIN P., XIII, Manager of Fayette, Plumb Company, engaged in manufacture of war material.
- BURROWS, JOHN S., III, U. S. Fuel Administration, Distribution of smokeless coal to army transports, navy, Panama Canal, and Shipping Board at Hampton Roads, Va. U. S. Fuel Administration, Washington, D. C., Division of Distribution and Apportionment.
- BELLOWS, ROBERT, Red Cross Work in France.
- CARTY, MAURICE W., II, Mechanical Engr. at Watertown Arsenal.
- CRANE, JASPER E., V. 1. Research work on several military problems, principally gas masks, in connection with the Bureau of Mines, and airplane finishes in connection with the Bureau of Standards.
2. Member of Sub-Committee of Airplane Dope of S. A. E.
 3. Member, Princeton Branch, National Research Council.
 4. Member of Executive Committee of the Mayor's Committee on National Defence of Newark, N. J.
- CRULL, CLIFTON G., IV, Member of Home Guard.
- EAGER, WILLIAM H., VI, Committee of Safety and Home Guard.
- EMERSON, CHARLES J., XIII, Dean of Aviation School, M. I. T.
- FARRELL, FREDERICK W., V, Secretary and treasurer of Brookfield Sub-Committees of Public Safety (Executive and Finance).
- FOGERTY, WILLIAM B., XIII, Ass't Naval Constructor, Seattle Construction and Dry Dock Company, Seattle, Washington.
- FOSTER, AUGUSTUS C., VI, In Washington, D. C.
- GALUSHA, DON L., VI, in charge of electrical plant extensions at Watertown Arsenal, Rock Island Arsenal, Ordnance Base Depot in France, and other government projects carried on by Stone & Webster.
- HAYNES, CHARLES R., X, G. M. Shoe Company, Naugatuck, Conn.
- HOLBROOK, ELMER A., III, spent the summer of 1917 as instructor in explosives and bombing at the U. S. A. School of Mil. Aero. at the University of Illinois. Now at the U. S. Bureau of Mines as Supervising Engineers and Metallurgist.

KING, CARL, II, taught strength of materials to the 101st Regiment (1st Corps Cadets) at the Wentworth Institute the summer of 1917.

KRAMER, HENRY, I, Ass't Chief Draftsman, Watertown Arsenal.

LYNCH, WILLIAM D., V, Chemist, U. S. Dept. of Agriculture, Washington, D. C.

MCCORMICK, KATHERINE D., VII, Woman's Committee, Council of National Defence.

MCQUAID, JOHN D., II, 1st Lieut., 7th N. Y. Inf., resigned January 24, 1917.

MACKAY, MARTHA C., V, serving as: 1. Retail price correspondent, Washington, D. C.

2. Chairman of Woman's Unit Council of National Defence.

3. Chairman of Conservation Dept., Federation of Woman's Clubs, Massachusetts.

4. Advisory Board, Walpole Agricultural School.

5. Formed and organized Quincy Food Conservation Committee, the outgrowth of which was the public market ideal for Massachusetts.

MAGNUSON, MARK G., III, in charge of wood-working department, Avia. Mechanics Building, midway between Minneapolis and St. Paul.

MILLER, ANDREW O, VI, with J. G. White, 43 Exchange Street, New York City, Aircraft Purchasing for the United States Government.

OVINGTON, EARLE L., VI, President of Sandy Point Shipbuilding Corp., Sandy Point, Me. Carrying out orders for ships worth \$600,000, for the Emergency Fleet Corporation, to carry food and munitions to the allies.

PORTER, ARTHUR P., I, designing steel for the Watertown Arsenal.

RAY, EDWARD R., IV, Camouflage work.

REGESTEIN, WALTER P., V, engaged in manufacture of smokeless powder. "I am employed by the E. T. Du Pont de Nemours and Company, as chief chemist of their Haskell plant. We are at present working in French 75mm powder but have at different times fulfilled contracts for the United States and English powders."

RICHARDSON, FREDERIC L. W., Red Cross reconstruction work in France.

RIDDELL, GUY C., III, metallurgical adviser to United States Tariff Commission.

ROBB, AUBREY G., II, Chief Engineer, International Works, Amherst, N. S. Manufacturing shells and marine engines and boilers for Imperial Munitions Board and Dept. Nav. Service.

ROCKWOOD, EDWARD F., II, Priv., Mass. State Guard, 1st Motor Corps.

ROLAND, JOHN W., I, working on the Halifax Ocean Terminals, for shipment of munition supplies.

SCOFIELD, EDWARD C., XIII, Insp. of hull material, Navy Dept.

SHAW, GEORGE H., X, Dept. of Agriculture.

SOSMAN, ROBERT B., VIII, Optical glass for army and navy instruments.

SUTTON, DAVID, I, Acting structural engineer for Watertown Arsenal.

THURLOW, OSCAR G., I, Chief Engineer in charge of construction of nitrate plant in Alabama.

WILLARD, ARTHUR, X, Acting as consulting engineer with the Cantonment Division of the Office Quartermaster General during the summer 1917, in Washington, D. C.

1905

GROSVENOR D' W. MARCY, Secretary, 246 Summer Street, Boston, Mass.

CHARLES W. HAWKES, Assistant Secretary,
23 Saxon Road, Newton Highlands, Mass.

A REQUEST

We shall shortly send out letters to all '05 men, asking for detailed information regarding their part taken in the war work, and are anxious to get a detailed reply covering activities of those who have been in the service, and also those who have been engaged in war work on a civilian basis. Please reply to our letter promptly.

Grove Marcy was home for Christmas and, while we have no definite knowledge as to the probable date of his discharge, your assistant secretary believes that the next batch of REVIEW news will probably be written by Grove himself.

Charlie Johnston, who is manager of the Virginia Industrial Chemical Company at West Norfolk, Va., has written me a good newsy letter, which I would print in full were it not for the request to keep class news as brief as possible. Charlie speaks of Eugene Burton's death at Fort Collins, Col., but could give me no details. I have written to Mrs. Burton, but to date have had no reply. Charlie writes that Roy Allen called upon him recently, and to use Charlie's own words, "I saw little of him, but he saw altogether too much of me, I fear, for a few days after his return to Washington he was taken with the darned, old, pesky disease called 'flu,' with which I was laid up at the time he called. . . . In New York, in September, I saw Billy Green and Doc Lewis, same old big-hearted Billy, same wise old Doc. At the chemical show recently I also saw Piggy Bartlett."

Doc Lewis arrived in France shortly before the armistice was signed, and Andy Fisher's comment upon this was as follows: "Just as one might have expected. All that was needed to end the war was to have Doc Lewis go to France." Speaking seriously, however, Lewis has been doing and is still doing a wonderful work. Perhaps some of us have forgotten that Doc went to Germany after graduation, and in 1908 received the degree of Ph.D. The following is taken from an article which appeared in the bi-monthly publication of the American University Experiment Station, "The Retort," for November 9, 1918:

In the spring of 1917, when gas warfare began to assume so important a place in the military program of this country, Van H. Manning, who was then directing the work, wired Technology the brief message, "Send me W. K. Lewis." His request was granted.

Of the many capable men on the defense side of the Chemical Warfare Service, perhaps none has contributed more practicable ideas than Dr. Lewis. The modern gas mask is a tribute to his technical skill. His ability as an executive ranks with his talents as a scientist. The doctor is a striking example of a man possessing enthusiasm and unequalled energy. Few other men, for instance, could have withstood, as he did, the strain of seventeen hundred miles of travel each week, this being the average journey necessitated by his work at Technology, his unending succession of conferences at this and other stations, and his consulting practice. Of Dr. Lewis, one of his colleagues at the Institute has said: "I know of no man in the country who combines the mind of the scientist with that of the engineer and both with the teacher's instinct, to the extent that it is true in the case of Dr. Lewis."

Under date of December 26, I have received a letter from George Jones of the firm of Sheridan, Jones, Sheridan & Smith, Marquette Building, Chicago. Jones enclosed an interesting clipping from a San Francisco newspaper, which describes in some detail the work which Norman Lombard is doing as president of the Western Farm Credit Company of San Francisco.

The newspaper clipping deals with a banquet given by Norman to a number of

tractor and motor truck dealers and other business men interested in arranging for credit to assist farmers in purchasing power vehicles. One of the principal speakers at the dinner summarized Norman's plan as follows: "The plan is of mutual helpfulness. It gives the farmer his machinery at once, enabling him to put it to work earning dividends for him while it is being paid for. It gives the dealer his cash, enabling him to keep his capital free for use in his business and also enabling him to do a much larger business than would be possible if he sold only on an 'all cash' basis."

Leonard W. Cronkhite has been doing a lot on constructive work on the dollar per year basis, and I have many newspaper clippings speaking most favorably of his achievements. Leonard was at the Institute only one or two years and after leaving Technology took his Ph.D. at Brown, and his B.Sc. at the University of Oxford, England. Cronkhite is special agent for the United States Department of Labor, is regional priorities advisor (of the Regional Advisor's Office), Region No. 1, War Industries Board, and is secretary of the Massachusetts Board on Non-War Construction. He has been giving a good many interesting talks before Chambers of Commerce, various conventions, employment managers' associations, etc., some of the addresses being on: "Some New Industrial Relationship," "Conservation of Labor Through Conversion of Industries," "Conservation of Labor Through Systematic Distribution."

Roy H. Allen is captain in the air service, Bureau of Aircraft Production. His address is 4th and Missouri Avenue, Washington, D. C.

Ed Coffin has been connected with the Associated Industries of Massachusetts for some time and he writes as follows:

On October 1, I gave up my connection with the N. E. Insurance Exchange and am now the staff engineer of the Associated Industries of Massachusetts. Up to the signing of the armistice I put in all my time at the regional advisor's office of the War Industries Board here in Boston, but since that time have been very much interested in studying employees' service and welfare organizations, on which subject I hope to be of help to the more than a thousand members in our association. It is a very important part of our industrial problem and I am glad to have the opportunity to get familiar with its possibilities.

Bob Turner, who has been general manager of the Associated Industries of Massachusetts until recently, has been having a good deal of sickness in his family; his wife and children have been very ill; we believe that they are now all on the mend. The Associated Industries of Massachusetts is a most wide-awake and helpful organization, and much of its value is due to Bob's untiring efforts.

Henry R. Gabriel has been promoted to the grade of major in the Engineers' Corps.—Henry H. W. Keith is lieutenant, Naval Constructor, U. S. N. R. F.

Word has just been received of the death in September of Eugene Burton, of Colorado.

1906

C. F. W. WETTERER, Secretary, Box 168, Tampa, Fla.

JAMES W. KIDDER, Acting Secretary, 50 Oliver Street, Boston, Mass.

Death has claimed another of the 1906 men who are serving their country. Lieut. Albert Leslie Stephens, III, died October 12, at Camp Humphreys, Alexandria, Va., of bronchial pneumonia.

Stephens was born in Cambridge, Mass., thirty-three years ago. He received his early education in that city, preparing for Technology at the Cambridge High and Latin School. Following his graduation from the Institute he spent nine years

as a mining engineer in Mexico, leaving that country at the beginning of the revolution. Following this he traveled for two years through South America, establishing agencies for the Maxwell Automobile Company. Later he established an agency in Caracas, Venezuela, under the firm name of Stephens, Irygoyen and Company, doing an export and import business. During this period he also represented the New York banking firm of Amsinck & Company. Early in July he accepted an offer of a commission as first lieutenant in the Engineering Corps, and on September 23 left Caracas for a course at the Officers' Training Camp for Engineers at Camp Humphreys. Beside his parents Lieutenant Stephens is survived by two brothers, George C. and Arthur H. B. Stephens, and an invalid sister Alice Isabelle Stephens.

In the death of Stephens, 1906 has lost one of its most popular men. Since 1906 his absence from Boston prevented him from attending class affairs, but he always demonstrated his interest in 1906. Stephens was in Boston during the last reunion and at that time seemed particularly happy in renewing his class associations. The class of 1906 will always honor the memory of those of the class who have died in the service of the country, and the death of Stephens should strengthen the ties that bind 1906 men to the class and the Institute.

The following is taken from the Boston "Globe" of October 17, 1918:

John G. Barry, commissioned yesterday as a major in the Chemical Warfare Service, was born in Salem thirty-five years ago. His parents live at 5 Buffum Street. He was graduated from the Pickering Grammar and the High Schools here, and from the Institute of Technology. He enlisted November 30, 1917, and was commissioned a first lieutenant in the 116th Regiment of Engineers and went to France with that command.

Barry's name is a new one upon the 1906 Roll of Honor.

Frank A. Browne, XIII, who has been with the Fleet Corporation since its beginning in April, 1917, has resigned his position as general purchasing officer to accept the management of the Maurer plant of the Barber Asphalt Company, at Maurer, N. J.

Mr. Browne was an extremely efficient factor in the rapid upbuilding of the Fleet Corporation's organization and is well entitled to the testimonial letter written to him by Mr. Piez, which is appended hereto:

"DEAR SIR:

"I have learned with great regret that you have found it advisable to resign from the organization of the Emergency Fleet Corporation, and take this opportunity to express, on behalf of myself and the other officers of the Fleet Corporation, our very deep appreciation of your faithful and successful discharge of a very difficult position.

"Coming with the Fleet Corporation, as you did, at its very inception, you assisted, not only in the organization of the Purchasing Department, but you expanded this division so that it aided and supplemented the work of other divisions, the organization of which did not proceed with the same speed as the demands upon them. You can retire with a very certain feeling that you have contributed a very material part to the success which the Fleet Corporation has achieved.

"Very truly yours,

(Signed) "CHARLES PIEZ,

"Vice-President and General Manager."

The class certainly congratulates Browne upon his record with the Fleet Corporation.

The following information is gleaned from new addresses lately received:

George Hobson is now in France as a captain in the 305th Engineers.—"Tommy" Holmes is now in New York with the American Graphite Company.—Guy Hill is a captain in the army and is in Washington at present.—Ernest Smith is with the Halcomb Steel Company in Hartford, Conn.

Roger Willis Babb enlisted in navy in April, 1918. He was on the U. S. S.

"Old Colony" at the time of the explosion in Halifax; this ship was used as a hospital ship. Later he was transferred to the U. S. S. "Casco," and on the second trip to France received serious injuries, a fractured head, the loss of his left eye, as well as other minor injuries. He was invalided home and is now boarding at 134 Huntington Avenue, Boston, Mass.

Arthur W. Talbot, local correspondent of the Boston "Post" and for twelve years on the staff of the Providence "Journal" and the "Evening Bulletin," died December 21 at his home, of pneumonia that followed a week's illness from influenza. He was in his thirty-fifth year.

The funeral was held Monday afternoon at his late home, 114 Lenox Avenue. The Rev. R. D. Hollington of the Mathewson Street Methodist Episcopal Church officiated.

Mr. Talbot was born in Cambridge on October 28, 1884, the son of Emory H. Talbot, for forty years a prominent Boston newspaper man, and H. Virginia Talbot. He was the grandson of the late Micah H. Talbot, who for sixty years was pastor and presiding elder of Methodist Episcopal churches in Massachusetts and Rhode Island.

He was graduated from Mechanic Arts High School and for a time attended the Massachusetts Institute of Technology until illness caused him to abandon the course. He joined the staff of the Providence "Journal" in 1906, and while working there took a special course at Brown University.

Mr. Talbot was the founder and president of the Pen and Pencil Club. He served as an officer in the Providence District Nursing Association and was state director of publicity for the food administration. He was an ardent outdoor sportsman, his chief hobby being woodworking, in which he was very proficient.

For twelve years he was night editor of the Providence "Journal," and did correspondent's work for the Boston "Post," Boston "Advertiser" and Boston "Globe." For the past eight years he covered politics and the Rhode Island State Legislature for the "Journal."

In June, 1910, Mr. Talbot was married to Helen A. Davis of Baltimore, Md. He is survived by his wife and two children, Marjorie Talbot, seven years old, and Robert Emory Talbot, two years old; by his father, Emory H. Talbot, who has been attached to Boston newspapers since 1874; his mother, a brother, E. D. Talbot of Boston, and a sister, Miss Ethel Talbot, who lives with her parents in Dorchester.

Jorge Lage died October 20, 1918, from influenza; word was received at the REVIEW office January 8, 1919.

1907

BRYANT NICHOLS, Secretary, 10 Grand View Road, Chelsea, Mass.

HAROLD S. WONSON, Assistant Secretary, 370 Blair Road, Washington, D. C.

During the past few months Charlie Allen became the father of a third child.—John P. Chadwick is with the American Smelting and Refining Company, Casilla 35, Antofagasta, Chile, South America.—Emory Leon Chaffee has been appointed an assistant professor of physics in the new Harvard Engineering School.—Herbert L. Fletcher is an engineer with the A. B. Lee Elevator Company, with office at 111 Devonshire Street, Boston, Mass.

Some address changes are: John F. Johnston, Jr., 2232 Ward Street, San Francisco, Cal.—F. C. Jaccard, 1008 West Broadway, Butte, Mont.—Edward F. Kelly, 30 Boylston Street, Jamaica Plain, Mass.—Harold C. Libby, Littleton Common, Mass.—Herman W. Mahr, Bradfield Avenue, Roslindale, Mass.—Charles F. Runey,

49 Fairmount Street, Belmont, Mass.—Carl J. Trauerman, 132 East Aluminum Street, Butte, Mont.

The sympathy of the class goes out to Kenneth Moller, on account of the death of his wife on December 16, 1918, from influenza. Kenneth himself has been in government employ in New York City, as chief of the manufacturing branch of the clothing and equipment division, with the rank of major.—James G. Moore is now connected with the engineering department of the Truscon Steel Company, Youngstown, Ohio.

We record with real sorrow the death of the wife of Donald G. Robbins, in the fall of 1918, of influenza. Don has left Boston and is with the Congoleum Company, Marcus Hook, Penn.

"The Tech" of October 16 prints the following sad news:

Oric Bates, son of the late Arlo Bates, the writer, and noted himself as an archaeologist, died from pneumonia on October 8, at Camp Zachary Taylor, Louisville, Ky., where he went late in September. His father died on August 24 of this year.

Oric Bates was born in Boston on December 5, 1883, the son of the late Arlo and Harriet (Vose) Bates. He was educated in private schools in this city, to prepare for Harvard, and from there was graduated with the class of 1905. The following year he was placed in charge of the Egyptian department at the Boston Museum of Fine Arts and remained there for about a year, when he went to the University of Berlin for a year.

This in turn was followed by explorations in the Nubia Expedition of the Khedival Government, the Harvard Syrian Expedition and the Harvard University Museum of Fine Arts Egyptian Expedition. This was in 1908, and the following year Mr. Bates led the Tripoli Expedition, and one into Nubia in 1910, and then for a year he explored the Libyan desert. He later was in charge of an expedition to Sudan, which was followed by still further exploration of the Libyan desert.

On returning to the United States Mr. Bates became curator of African ethnology, Peabody Museum, Harvard University, and he continued there until entering his country's service. He was a member of the Royal Geographical Society and of the Stylus, Signet and Colonial clubs. He was the author of "The Eastern Libyane."

When Professor Burton issued his call for assistants to care for the School for Deck Officers that he was caring for, for the United States Shipping Board, Mr. Bates came forward and later was the director of the school. Although the work was very much in line with that for winning the war, he felt that something more active would suit him better, and going from the Institute he reported at Camp Zachary Taylor, and his death from pneumonia came within the month.

On June 5, 1913, in Boston, he married Miss Natica Y. Inches, the daughter of Mrs. John Chester Inches. Mr. and Mrs. Bates then made their home at 31 Lime Street. Mrs. Bates survives her husband, as do two young sons, Manson and John Chester Bates.

The secretary had the real pleasure early in January of meeting in Boston, by chance, several of our classmates who live some distance away. The first was Clarence Howe, who with his wife, was at home in Waltham, Mass, for the holidays. Clarence has made good as a civil and consulting engineer, conducting his own office in Port Arthur, Ontario, Canada, where he now employs twelve men. He has recently been appointed consulting engineer for the Northern Pacific Railroad.—The same day, at the Boston City Club, Harry Moody appeared suddenly on the scene. Harry had had the influenza but had fortunately recovered fully. He is division manager for Westinghouse Electric Manufacturing Company at Philadelphia.—On January 3, Harold Wonson appeared unexpectedly at the secretary's office in Boston. Harold has had mighty interesting experiences in Washington and elsewhere as an officer in the supply end of the organization of our army, reaching the rank of lieutenant-colonel. He has been discharged, however, and on January 6 returned to W. H. McElwain Shoe Company, where he is to have a very responsible position.

On January 7, Sam Coupal met the secretary on the street in Boston. Sam is a consulting mining engineer, conducting an office of his own in New York City.—The secretary had a few delightful telephone conversations early in January with Mrs. "Stud" Leavell. As is to be expected, "Stud" has distinguished himself in France. His name appears in the list of those awarded the Distinguished Service Cross by the war department on January 8, as follows:

LEAVELL, John H., captain, Company F, 316th Engineers.—For extraordinary heroism in action at Audenarde, Belgium, November 1, 1918. Captain Leavell led a patrol of four men on a reconnaissance of the city of Audenarde at a time when it was still occupied by enemy patrols and snipers, obtaining important data on destroyed bridges and locating materials necessary in repairing them. While on this errand Captain Leavell and his men encountered a German patrol three times their number, and in the combat which followed several of the enemy were killed or wounded and a spy was captured.

Herman Mahr is in the dyestuff department of the DuPont Powder Company in Wilmington, Del.

1908

RUDOLPH B. WEILER, Secretary, Care of The Sharples Separator Company,
West Chester, Pa.

LESEUR T. COLLINS, Assistant Secretary, 70 State Street, Boston, Mass.

The first bi-monthly dinner of the season was held at the Boston City Club on October 8, with the following present: E. H. Newhall, E. J. Scott, E. I. Wells, E. J. Beede, A. W. Heath, S. C. Lyon, L. Mayo. This slim attendance was partly due to the "flu" epidemic.

The next bi-monthly dinner was held at the Boston City Club Tuesday evening, December 10, with the following present: E. I. Wells, F. T. Towle, E. J. Beede, E. H. Newhall, S. C. Lyon, A. W. Heath, S. F. Hatch, L. Mayo, H. L. Carter and L. T. Collins. The members spent the evening in exchanging personal experiences. Link Mayo has been engaged in buying material for Murray & Tregurtha, who have Government contracts for building flying boats and seaplanes. Beede is in the secret service, so had nothing to say.

In order to arouse greater interest in the bi-monthly dinners, now that the war is over and those engaged in Government work will soon be returning, a circular letter was sent by the resident secretary to all members on the Boston and vicinity mailing list, giving the name and address of every member on the list, with telephone numbers:

As you all know, we have an unbroken bi-monthly dinner record, covering a period of ten years. This fine achievement has been due in great part to the regulars who have always been most dependable in their attendance at these get-together dinners. Now, we want more regulars, and to bring this about, I am sending to each member of the class in Boston and vicinity, a list of the names of the members of the class to whom bi-monthly notices are sent.

I want each member of the class to preserve this list, and to take it upon himself not only to make every possible effort to attend this season's series of dinners but also to personally urge other members to do the same.

As you all know, we have a ten-year reunion which is overdue. It may be advisable to have it this coming summer; but possibly not until the summer of 1920. In any event, we want to be prepared for the wonderful time which is coming to us. This can best be brought about by the closest union of the class members, and in no way can this be better promoted than by attendance at our regular bi-monthly dinners.

Your secretary met Leo Loeb for the first time in ten years on the December 13 excursion of the A. S. M. E. to the Aberdeen Proving Grounds, Aberdeen, Md. Leo is an officer of the Philadelphia Section and was so busy with arrangements that little time was left for exchanging experiences.

Herbert T. Gerrish is captain of 218th Engineers, Camp Travis, Texas.

Karl R. Kennison, supervising plant engineer at the recently completed concrete shipyard of the Emergency Fleet Corporation at Mobile, has been transferred to the office of the district plant engineer for the middle Atlantic District at Baltimore.

James H. Davidson is now Major James H. Davidson. He is detailed to take charge of the inspection, accumulation, storage, and disposition of all records of all organizations demobilized at Camp Lewis and is also appointed on a special board to determine the value of the stock and fixtures left in exchanges by outgoing troops.

The death is reported of Ernest G. Genoud on October 12, 1918, of the prevailing epidemic. So far as known this is the first death among members from the epidemic, and was received just as we go to press. Account of Dr. Genoud's work will appear in the next issue.

Lynn Loomis has been promoted to major in the Chemical Warfare Section. F. K. Belcher has been transferred from the Pusey & Jones yard at Wilmington, to William Cramp & Sons yard at Philadelphia.—1st Lieut. H. R. Calloway, F. A. R. C., 1985 Sedgwick Avenue, New York.

Jack Evans of Toronto, Canada, who for a period of several months was a prisoner in the German prison camp at Dulmen, Germany, is at present with the Pusey & Jones Company assisting Dr. Taylor in Service Department work.

Evans enlisted in the early part of the war with the Canadian Mounted Rifles. He took part in the battle of Ypres, Messines Ridge and Plug Street. After ten months' experience in the trenches he was wounded and gassed in the third battle of Ypres, June 2, 1916. He was taken prisoner in this same battle. His battalion which went into the battle with a fighting strength of one hundred, was reduced to fifty-nine men.

After being taken prisoner Mr. Evans was taken through Belgium and put in the prison camp in Dulmen, Germany. He was sent to work in the coal mine known as the "Black Hole." After some time spent here, to use his own words, he "became tired of the abuse and poor feeding" and decided to get out. After four attempts he got away to Holland and through that country back to the Allied lines. Since that time he has gained thirty-five pounds in weight. Since his return Private Evans has written a book, "Out of the Jaws of Hunland," in which, in his own way, he depicts the abuses and terrors of German prison life.

NEW ADDRESSES

Capt. William B. Given, Company N, 165th Infantry, Rainbow Division, Room 3036, 120 Broadway, N. Y. C.—Lieut. Harold E. Weeks, 131 S. 1st Avenue, Mt. Vernon, N. Y.—Major Laurence T. Walker, 230 Main Street, Stoneham, Mass.—Joseph H. Sinclair, 72 Lorimer Street, N. Y. C.—Capt. Desaix B. Myers, 304 Engineers, American Expeditionary Forces.—Ernest E. Kilburn, care Tide Water Power Co., Wilmington, Del.

1909

CHARLES R. MAIN, Secretary, 201 Devonshire Street, Boston, Mass.

GEORGE A. HAYNES, Assistant Secretary, 530 Atlantic Avenue, Boston, Mass.

The class may well be proud of the record of its members in the great struggle which is being brought to a successful termination. Our records show that eighty-four of the men have been in active military service, and doubtless there are many others who have been engaged in work directly or indirectly connected with the Government. As soon as space permits, we shall print the complete list of men serving with the colors. If any have not already reported this fact, please do so at an early date.

It is with deep regret that the secretary reports the death of the second member of the class to die in service, Capt. Ernest A. Ware. He was a member of Company B, 506th Engineers, Service Battalion, and died of pneumonia at Bordeaux on October 11, 1918. He was buried with military honors in the Tallance Cemetery, Bordeaux, France. The secretary has extended the sympathy of the class to Ware's parents, who live in Somerville, Mass.

Last month, the secretaries took it upon themselves to get out a Christmas greeting for the class, which was sent to all the boys in service.

Word has been received from Lieut. Craig Ferguson, Ordnance Department, A. E. F., Siberia. Correspondence should be addressed to him, care Baker Loan and Investment Co., Walla Walla, Washington.

A very interesting letter came a few days ago from Capt. Arthur Shaw, 301st Engineers, A. E. F., telling about the St. Mihiel drive, in which his regiment participated. He says he would be mighty glad to hear from the fellows in the class.

R. W. Riefkohl is now a major in the 63d Artillery, A. E. F.

Miss Rebecca Thompson is in the drafting room of the Navy Yard at Washington, D. C. She holds the rank of Chief Yeowoman.

Lieutenant Herbert Jenness is now with the 63d Infantry Regiment, stationed at Camp Meade, Maryland.

Russell Nichols writes that he has been in an aviation training camp in Dallas, Texas, since last May, but the end of the war came before he received his commission.

Announcement has been made of the engagement of Capt. Henry R. Putnam to Miss Edith Nagel of St. Louis, Mo. Captain Putnam is now at Camp Humphreys, Va.

Mr. and Mrs. John N. Brooks of Douglaston, Long Island, announce the birth of Elizabeth Blackwell Brooks on November 16, 1918.

The class is still holding its bi-monthly meetings, usually on the second Wednesday of the odd month. Last month ten of the fellows got together for a quiet but enjoyable evening at the Walker Memorial. Letters were read from some of the boys in service. The next dinner will be held in January.

1910

DUDLEY CLAPP, Secretary, Box 1275, Boston, Mass.

J. A. Torralbas writes the editor concerning his late brother:

This is to advise you that my brother, Mr. Rafael J. Torralbas, lately of Santa Lucia, Cuba, and of this city, at the above address, died in this city on September 26, after a short illness due to an infection contracted while directing the extensive railroad and bridge works which he was making for the Santa Lucia Company.

He was a Tech alumnus, class 1909 or 1910, and had worked up a good reputation in this city up to last year, when he accepted from the Santa Lucia Company the position of technical director of extensive railroad and bridge building and port improvement which they were carrying out on their property, the second largest sugar mill of this country.

The newspapers of this city and his native city, Sancti Spiritus, have written most laudatory articles on his death, and I am writing you in the hope that you will convey the information to the Institute and alumni of the same.

From "Town and Country," New York City, of December 20, is the following:

SIMMONS. August 12. Capt. Frank R. Simmons, "in active service," born in Providence and well known in Paris and New York. Mr. Simmons graduated from Yale in 1907, studied architecture at the Boston Tech and went to Paris to continue his studies. Later he abandoned architecture and began working in oils and water colors. Then came the war. He was one of the organizers of the American Committee Ecole des Beaux-Arts, through which former Americans of the school assisted French students who had gone to the front and their families. In the winter of 1916-1917 he was associated with Mrs. Edith Wharton in work related to convalescent homes. In March, 1917, he was asked to become one of the civilian members of an American military committee that went to Paris headed by Major Churchill. He was considered very valuable because of his deep knowledge of the French people and his gift in being able to draw French and Americans together in a bond of understanding. A system of "intelligence" on which depended the effective ensemble of different nationalities, manners and customs, was evolved and he was accredited with valuable work in this regard. A poilu remarked to an American journalist abroad: "Les Americains peuvent facilement s'entendre avec les Francais!" (The Americans are easy folk to work with.) Mr. Walter S. Ball, the journalist to whom he spoke, wrote later: "A part of all he had in mind was unknowing tribute to Ronald Simmons, of Providence." Captain Simmons leaves a wife, Mary E. Simmons, of 102 Lloyd Avenue, Providence, R. I.

H. E. Beebe of Ipswich, S. D., writes as follows:

On Wednesday night, with the aid of a Ford truck and ten willing boys, I helped pile up the available winter's supply of kindling of all the stores in Ipswich, and the residents adjacent thereto, in front of the Opera House. In spite of the snow falling heavily a barrel of kerosene helped the bonfire to be a roaring success. The Kaiser was burned in effigy with a shot gun salute that lasted over a half hour. On account of influenza no school, churches or public meetings of any kind have been held for a month, but there was a crowd out for this, and, apparently, no ill effects have been seen, although a few people of German ancestry looked rather sick. Of course, the next morning the placards over town, "Germany's Laid Down" looked premature, but we kept them up and it looks as if it were all over today except the trial of the criminals and a few cities laid waste in Germany as a sample of Kultur. Nothing like trying the broth out on the cook.

The job of chairman for this county for the Fourth Liberty Loan was gently laid at my door—a good sized package of \$350,000. There are a few Schumachers Schmidts, Villhairs and other Irishmen who have not yet surrendered their grasp on the eagle's tail feathers. They are being led before the Council of Defense and assessed twenty-five to fifty kopecks each for the Red Cross, and ordered to take the bonds or be thrown into the county Bastille.

I have endeavored in various and sundry manners to break into the army by waiving exemptions, etc., and may make the grade yet. Defective eyesight and a mean disposition seem to be the main drawbacks. The job of military governor of Berlin for the allies would probably be the right shaped hole as far as my disposition goes. If a German general complained that street sweeping made his back tired I would, with true German efficiency, refer him to report A23455-LX, stating the conditions that existed among the Belgians' or other civilians in the district formerly under his control, and ask the quartermaster to keep him supplied with new brooms.

E. L. Patch is assistant naval constructor in the navy yard, Mare Island, Vallejo, Cal.—Donald Adams French died October 4, 1918, of pneumonia, word was received January 7, 1919.

The following extracts from a letter written to Mrs. Sedgwick and the Technology Workroom by Mrs. Stuart, wife of Capt. Edward Stuart, of the Sanitary Corps overseas, shows that it is not always so simple a matter to get our supplies from the Workroom to the Technology Bureau in Paris:

It seems that the clothes to go over to the Technology Bureau had quite a few adventures, Captain Stuart writes. He discovered that he would not be allowed to take the trunk, and so decided to put the contents in his large sleeping bag. The key wouldn't unlock the trunk, so it had to be broken open. He filled up a huge pasteboard box with socks and sweaters, etc., and was right in the middle of a busy street in New York when the bottom fell out of the box! Of course everything was scattered left and right and traffic was stopped until the things were picked up.

I don't know how the rest of the transfer went on, but I imagine all right.

On the way over Captain Stuart was taken ill with influenza and on reaching port was taken to a hospital, where he remained several weeks. He was very ill, but just escaped pneumonia. He grew very thin, losing twenty-five pounds. So thin, he wrote, were his legs that his puttees rattled as he walked. As soon as he was discharged he discovered that all his baggage was lost, and hunt as he could, he found no trace of it. One day he stopped at a little, tiny country station, and behold! in the corner was his baggage neatly piled up. Shortly after he reached Paris, and was able to deliver everything to the Technology Bureau.

Copy of a letter sent by Joseph Balch, Jr., to Mr. Gibbs of the Technology Bureau:

November 25, 1918.

Just a line to heartily thank you for a mighty generous package I received a short time back while in Verdun. We have been on the move continuously since then and I have delayed writing until just now, owing to an almost complete lack of time, and place, and facilities. I suppose I am the only possessor of a pair of pajamas in the whole division and they sure are a big convenience. Hope to be able to keep them to myself, and keep the "Cootie" family out, but there is nothing sure in this life, believe me.

The rumors point now to a speedy return to the States for us, so that we will soon be back to the land of civilization where such comforts are the rule instead of the exception (I am referring to the pajamas and not the cooties). But in the meantime I will say your "Treasure Chest" is a godsend and many thanks for your generosity. Sorry I can't get into Paris but the C. H. Q. say "no," so I will have to be content.

1911

ORVILLE B. DENISON, Secretary, 63 Sidney Street, Cambridge A, Mass.

HERBERT FRYER, Assistant Secretary,
Room 506, 10 State Street, Boston, Mass.

133 — HONOR ROLL — 133
(Corrected to January 1, 1919.)

Name	Course	Rank	Service
AARON, J. A.	VI	Priv.	Adv. Ord. Depot No. 4, A.E.F.
ALEXANDER, H. S.	II	Capt.	C. O., 92 Sq., A.S.S.C., A.E.F.
ALTER, J. F.	IV	—	Inspector, Q.M.C.
ANDERSON, R. E.	III	—	O.T.S., Artillery
ARMS, J. T., JR.	IV	Ensign	U.S.N.R.F.
ATKINS, L. M.	XIII A	Lt. Com.	U. S. N.
BABBITT, H. E.	XI	Capt.	Services of Supply, A.E.F.
BAILEY, F. R.	I	1st Lt.	301 Eng.
BAKEWELL, D. C.	II	1st Lt.	Inspector O.D., U.S.R.
BARKER, C. M.	VI	2nd Lt.	N. A., A.S.S.C.
BARTON, D. C.	XII	Priv.	Meteor. Serv., S.C., A.E.F.
BATES, S. E.	I	Priv.	U.S.N.A.
BESSE, E. E.	II	Capt.	O.D., U.S.N.A.
BROOKS, A.W.	VI	Sergt.	2nd Btn., 3rd Engrs.
BROWN, H. C.	II	2nd Lt.	Hdqs. Co., 71st F.A., A.E.F.
*BROWNLEE, M.B., Jr.	III	Priv.	M. G. Btn., 313 Inf., A.E.F.
BURDETT, PAUL	II	1st Lt.	C.A.C., Fort Revere, Mass.
CALDWELL, P. L.	I	Capt.	N.E. Dept., A.S.S.C.
CHAMBERLIN, O. V.	II	2nd Lt.	Amer. Ord. Base Dep, A.E.F.

Name	Course	Rank	Service
CHURCHILL, H. W.	VI	1st Lt.	Insp. Gun Div., O. D.
CLARK, OBERLIN,	II	—	E.O.T.C. Demobilized.
COBURN, W. H.	I	Capt.	Gas. Def. San. Corps, U.S.A.
CORY M. M.	I	2nd Lt.	Hdqr. Det., A.S.S.C.
CUSHING, R. W.	VI	Capt.	Supply Purchaser, Eng. Corps
DAVIS, H. C., JR.	VI	Major	O.D., U.S.A.
DAVIS, W. C., JR.	I	2nd Lt.	Co. F, 305 Eng.
DEVLIN, J. J.	III	Capt.	Co. E, 301 Eng.
DOW, C. W.	I	—	Chief Inspector, Q.M.C.
DRAKE, WHITFORD	XIII A	Lt. Com.	Constr. Corps, U.S.N.
EDWARDS, C., JR.	XIII	Capt.	46 F.A.
FOSTER, W. D.	IV	Sergt.	Camfl. Corps, 24 Eng., A.E.F.
FRANCIS, R. D.	III	Sergt.	Co. E, 101 Eng., A.E.F.
FRANCIS, S. A.	IV	2nd Lt.	F.A., U.S.A.
FRENCH, J. N.	IV	2nd Lt.	Army Avia. Det., A.E.F.
FROST, R. W.	I	—	G.P.B., A.E.F.
FULLER, J. C.	II	1st Lt.	C.W.S., Gas Def. Div.
GAILLARD, D. P.	VI	Capt.	Nitrate Div., O.D., U.S.A.
GEORGE, G. C.	I	1st Lt.	Replace. Troops, E.O.R.C.
GILCREEST, O. J.	VI	1st Lt.	U.S.N. Air Forces, A.E.F.
GLAZIER, L. G.	VII	Capt.	Shell-Loading Brn., O.D.
GOULD, R. H.	XI	2nd Lt.	A.S.S.C., A.E.F.
GRANDGENT, LOUIS	IV	Major	101 Inf., A.E.F.
GRAVELY, J. S.	V	Lt. Col.	U.S.N.A.
GREENAN, J. O.	III	2nd Lt.	Hdqr. Co., 27th Eng., A.E.F.
GUTHRIE, S. A.	III	1st Lt.	346th M.G.B., I. O. R. C.
HALL, E. R.	II	—	F.A., O.T.S.
HALL, H. W.	IV	Capt.	Co. D, 343 Inf.
HANSON, R. T.	XIII A	Lt. Com.	Constr. Corps, U.S.N.
HARRIGAN, L. J.	XI	—	U.S.N.R.F., A.E.F.
HARRINGTON, C. H.	I	Priv.	Co. F, 301 Eng.
HARRINGTON, F. C.	I	Capt.	Ord. Depot, Q.M.C.
HARRINGTON, J. F.	VI	—	F.A.-O.T.S.
HARRINGTON, JOSEPH	—	—	15th Training Camp Batt. F. A. O. T. S. Camp Zachary Taylor, Ky.
HART, J. P.	VI	Ensign	U. S. N. Elec. School, Navy Yard, N. Y.
HERLIHY, J. A.	II	Capt.	Transp. Sect., A. S. A. E. F.
*HERRICK, W. F.	II	1st Lt.	Army Avia. Det., A.E.F.
HODGMAN, W. K., JR.	II	2nd Lt.	Amer. Ord. Base Dep. A.E.F.
HUGELMAN, JOHN R.	I	—	U.S.N.R.F., Safety Engr., Portsmouth Navy Yard
JENKINS, D. J.	III	—	27th Mining Engrs.
JEWETT, F. C.	I	Q. M.	U.S.S. "Nebraska"
JOHNSON, C. R.	X	Major	Gas Def., San. Corps., A.E.F.
JUDD, M. H.	I	—	U. S. N. R.
KENNEY, G. C.	I	1st Lt.	91 Aero Sqdr., A.E.F.
KENWAY, E.	I	1st Lt.	C.O., 83 Aero Sqdr., A.E.F.
KERR, C. P.	II	1st Lt.	Aero Eng. Div., A.S.S.C., A.E.F.
KILLION, T. S.	III	2nd Lt.	329 Labor Btn. A.E.F.
*KIMBALL, S. P.	VI	2nd Lt.	U.S.N.A., Camp Upton, N.Y.
KINNEY, M. C.	IV	1st Lt.	R.A.F., British E.F.
KNOX, H. G.	XIII	Lt. Com.	U. S. N., Constr. Corps
LATHROPE, T. R.	VII	—	San. C., Ancon, Canal Zone
LAWTON, S. R.	V	Capt.	San. Corps, U.S.N.A.
LEARY, A. F.	XI	—	F.A., O.T.S.
LETTON, H. P.	XI	Capt.	Co. C., 111 Eng., A.E.F.
LORD, H. S.	II	1st Lt.	Hdqrs. Dept., U. S. Eng.
LORD, R. H.	VI	Capt.	O.D., U.S.N.A., A.E.F.
M'ALLEN, J. L.	III	1st Lt.	Co. B, 602 Eng., A.E.F.
MCCUNE, W. R.	II	1st Lt.	O.O.R.C.
MACKENZIE, J. D.	III	1st Lt.	185 Cape Breton High, B.E.F.
MAGRATH, C. B.	II	Capt.	Canadian Inf., B.E.F.
MANLEY, H. L.	I	1st Lt.	110 Mobile Ord. R. S., A.E.F.
MERRILL, C. H. S.	I	Priv.	Hdqr. Det., 39 Eng., A.E.F.
MOORE, F. A.	II	2nd Lt.	4th Prov. Regt., F.A., U.S.A.
MORRISON, I. F.	I	1st Lt.	Div. Hdqrs., 4 Am. Tr., A.E.F.
MORSE, R. E.	VI	2nd Lt.	209 Field Sig. Brn.
NAGLE, ARTHUR R.	I	—	F. A. O. T. C., C. Tay., Ky.
NEALEY, J. B.	I	Sergt.	Bat. A, 346 F.A.
OFENSTEUR, C. L.	I	—	U. S. N., E. per. Aero. Engr.
PARKER, T. B.	I	1st Lt.	34 Eng., 78 Div., A.E.F.
PATRICK, L. A.	IV	Sergt.	102 Mach. Gun. Btn., A.E.F.
PERRIN, L. W.	I	Capt.	301 Inf., A.E.F.
POWELL, O. D.	XI	Sergt.	309 F.A., U.S.N.A.
PRAY, I. R.	V	Sergt.	Co. B, 1st U.S. P., A.E.F.
PRENTISS, N. N.	I	—	A.S.S.C.
RANGER, R. H.	VIII	Capt.	F.A., U.S.A., A.E.F.
RHOADES, W. G.	VI	2d Lt.	63 Inf., Praesidio, Cal.
RICHARDSON, W.	IX	Seaman	Co. B, N.R.T.S.
RICHMOND, C. G.	I	1st Lt.	602 Eng., A.E.F.
*RIDEOUT, P. A.	I	2nd Lt.	30 Eng., Gas Regt., A.E.F.

Name	Course	Rank	Service
ROBERTS, W. L.	XIII	—	Constr. Corps, U. S. N.
ROMER, J. B.	V	Chief Insp.	O. D., U. S. A.
RUSSELL, FRANK, Jr.	II	1st Lt.	Ord. Insp. Amm. and Small Arms Sect.
RUSSELL, FOSTER	II	Priv.	A.S.S.C.
SCHMIDT, S. M.	IV	1st Lt.	Red Cross
SCRIBNER, S. H.	I	Sergt.	14 Eng., R.R. Corps, A.E.F.
SEATON, R. A.	II	Capt.	O.O.R.C.
SHENSTONE, O. H.	I	2nd Lt.	R.A.F., British E.F.
SMITH, W. L.	IV	1st Lt.	Hdqr. Co., 55 H.A., C.A.C.
SNYDER, H. R.	IV	P. M.	Commissary Dept., U.S.N.
SOULE, H. G.	III	1st Lt.	A.S.S.C.
SPALDING, S. P.	III	Capt.	O.D., C.A.C., U.S.A.
STAMPER, W. Y.	I	1st Lt.	Co. D., 307 Eng.
STRONG, C. R.	IV	Sergt.	Constr. Div., U.S.A.
SUTHERLAND, C. H.	I	1st Lt.	517th Engrs., A. E. F.
THOMPSON, M. R.	XIV	Priv.	C.W.S., Gas Def. Div.
VANHOVENBERG, H.W.	XI	1st Lt.	U.S. Pub. H'lth Service
VINING, R. E.	III	2nd Lt.	Co. D, 303 Eng.
WADE, N. S.	II	Ensign	U.S.N.R.F.
WALKER, R. T.	IV	Priv.	Co. H, 40th Eng.
WARDWELL, A. K.	I	—	C. B. M., U.S. Ensign Sch.
WARNER, W. W.	I	Priv.	6th Co., C.A.C., U.S.A.
WATTS, LAWRENCE	I	Capt.	C.A.C., U.S.A.
WEEKS, L. B.	XI	Capt.	Mine Planter, A.E.F.
WELLS, R. B.	II	—	U.S.M.C., A.E.F.
WELLS, R.D.	VI	Capt.	Insp. Sect., Equip. Div. O.D.
WHEELER, T. L.	X	Capt.	C.W.S., Gas Def. Div.
WHITCOMB, E. J.	X	1st Lt.	O.D., Raritan Arsenal, N.J.
WILLIAMS, C. S.	II	Capt.	Infantry, U.S.A.
WILSON, I. W.	XIV	Major	San Corps, U.S.N.A.
WOOD, H.	IV	Lt.	54th Art., C. A. C., A.E.F.
WOOD, HENRY	IV	—	O.T.S., Fortress Munroe, Va.
WOOD, R. O.	VIII	Ensign	U.S.N. R.F.
WOODRUFF, J. C.	X	Major	San. Corps Gas Def. Div.
YEREAANCE, A. W.	I	2nd Lt.	Co. F., 305 Eng.

*Died in the Service.

Through the courtesy of the Editor your secretary is enabled to reprint on these pages for permanent record a corrected version of the 1911 Honor Roll originally chronicled on the blotters sent out the first of December. At this writing, the shortest day of the year, the list of stars has risen to one hundred and fourteen, the newcomers being Oberlin S. Clark, II, and J. F. Harrington, VI. "Clarkie" was drafted last March, spent a month in the Depot Brigade at Camp Devens, Mass., and was sent to Camp A. A. Humphreys, Va. After five months there in charge of the drawing-room of the "Mechanical Construction School," he attended the E. O. T. S. there for two months, or until demobilized on Thanksgiving Eve. He now has a job with the Central Construction Company, Pawtucket, R. I., the job itself being at Mechanicsville, Conn.—"Joe" Harrington says only the signing of the armistice kept him from having a commission, for he was sure he was going to "come through" at the close of the 15th Training Battery F. A. O. T. S. at Camp Zachary Taylor, Ky., from which he was demobilized in November after three months of training.

The following clipping from the Boston "Transcript" of November 27 contains the sad news of the death of the fourth of our respected classmates to make the supreme sacrifice in the service of their country:

Malcolm Bruce Brownlee, Jr., a private of the Machine Gun Battalion, of the 313th Infantry, U. S. A., died on October 26, in France, from disease, his parents, Malcolm B. and Belle F. Brownlee of 6 Fuller Street, Brookline, have been advised. He was born on March 1, 1889, in Butte, Mont., and came East with his parents when young. He fitted at the Middlesex School in Concord for higher studies and then went to Technology. He did not remain to finish his course, however, but instead went to Hartford, Conn., to enter business life, and from there later went to Baltimore, Md., as manager of the Seaboard Electric Supply Company. His war service began the last part of April, this year, when he went to Camp Meade in Maryland, where he received his preliminary training as a soldier. He then was sent to France, where he arrived on July 15, since which time he had been in action. While at Technology he was a member of the "No. Six Club" and in Baltimore belonged

to the Athletic Club of that city. Private Brownlee is survived by his parents, a brother, Lieut. James F. Brownlee, who is in service in France in the Ordnance Department, and by two sisters, Miss Edith Brownlee and Miss Corona Brownlee, of Brookline.

Certainly the heartfelt sympathy of his classmates is with his parents and family.

The day after the signing of the armistice the secretary received a letter from "Ned" Hall, II, written from the F. A. C. O. T. S., where he was just recovering from the "flu" and resuming his course as "candidate" for a commission. He said he enjoyed the course immensely and was hoping to be able to complete it and obtain a commission.—"Bob" Morse, VI, appeared on the blotter as a private, but in reality he is and has been for several months a second lieutenant.—"Jack" McAllen, III, wrote from France in October that his regiment, 602d Engineers, was at the front and that they got gas alarms two or three times a night, each time having to arise and don gas masks, all of which was a "damn nuisance," he said.—"Bob" Wood, VIII, is another "under-rated" service man, for he appeared on the blotter as a cadet, whereas in reality he was and is an ensign.

Speaking of "Write to Dennie!"—Norman S. Wade, II, wrote just after the armistice, saying that he had been in the Merchant Marine for a considerable time but at present was an ensign, U. S. N. R. F.—"Art" Leary, XI, had to undergo a surgical operation and lose three months' work to get into the army, but was finally rewarded by an accepted enlistment as private in 2d Co., C. A. C., Fort Banks, Winthrop, Mass.

Among the men who have registered at the Paris Bureau of the A. U. U. recently are the following 1911-ers: O. D. Powell, R. W. Frost, J. O. Greenan, O. J. Gilcreest and Edward Kenway.

Perhaps the 1911 dinner held on the 11th day of the 11th month may best be described by reprinting the following from The Tech of November 16:

Monday, the 11th, the class of 1911 held its class dinner at the Boston City Club. Owing to the excitement caused by the signing of the armistice, the attendance was small, but as Dean Burton remarked, those present made up for this with the noise of their celebration. Dean Burton and eight men of the class of 1911, viz., S. B. Dyer, II, H. G. Jenks, VI, A. H. Kaufman, X, W. J. Pead, Jr., VI, D. J. Smith, V, E. D. Van Tassel, X, F. A. Wood, II, and O. B. Denison, VI, secretary, formed the party.

Throughout the evening Dean Burton told of the new conditions at the Institute in his characteristically intimate way. Every one was anxious to hear of the activities at Technology. The Dean also explained the novel, interesting and instructive course in "War Issues" now being taught.

Originally planned by the secretary for the 11th day of the 11th month, the evening took a new significance when it was brought to the attention of his classmates by the secretary that hostilities ceased at the 11th hour of the 11th day of the 11th month, and that there were strangely enough one hundred and eleven stars in the 1911 Service Flag.

Instead of breaking up at 10 o'clock the boys left the City Club in cars owned and driven by "Ted" Van Tassel and "Bill" Pead, and joined in the merry-making up and down Tremont and Washington Streets until a late hour.

Come Eleven!

Philip Stearns Avery, IV, is working on the United States Government housing work at Bath, Maine, in a civilian capacity. In addition to his duties as assistant to the builders he has been in charge of the commissary and barracks, feeding over two hundred at a meal and having between four and five hundred in the barracks.—"L-C" Cooley, X, has been making ether and redistilling alcohol at Nitro United States Government Experimental Plant "C" at Charleston, W. Va.—H. L. Robinson,

I, in addition to his engineering duties at the Crompton & Knowles Loom Works, has been assisting the fuel commission in Worcester, Mass.—Royal Barton, VI, recently wrote the secretary, saying he had received a long letter from Bala Pershad Mathur, also Course VI. Mathur has been engaged chiefly in telephony in his native country, India, since his graduation from the Institute.—“Mike” Greenleaf, VI, writes that everything “goes swimmingly” with him in Detroit. He had planned to be in Boston in mid-December, but for some reason did not come.

L. O. Mills, VI, is a civilian inspector with the Signal Corps, and on several occasions has visited the Simplex Wire and Cable Company's Cambridge plant, where the secretary is employed. He's still single, he says.—Not so with “Larry” Odell, VIII, for he and Mrs. Odell are receiving congratulations on the birth of a daughter, Alice B. Odell, on November 27, weight seven pounds, two ounces. Many hearties, Larry! The proud father is crude rubber manager for the Goodyear Tire and Rubber Company in Akron, Ohio.—“Don” Stevens, II, reports, as did “Larry” Odell, that business is humming with the Goodyear Company. He also informed the secretary that C. R. Johnson, X, was now overseas and a major, and that Captain “Bill” Coburn, VI, XI, is stationed at the Goodyear plant, both of them in the Gas Defense Service. He also stated that Karl Kilborn, II, experimental engineer at the Goodyear plant, has just recovered from the “flu,” and that B. Darrow, VI, is developing pneumatic truck tires and aiding trans-continental motor truck test trips.

O. W. Stewart, I, has ceased working on his dollar-a-year job with the fire prevention section of the War Industries, and is now back with the Manufacturers Mutual Fire Insurance Company in Providence, R. I. He writes that H. E. Lake, I, has been temporarily with the National Board of Fire Underwriters, advising on fire protection for navy projects on shore. Lake recently sent in his class dues from his home in Wilmington, so doubtless is back from his Government work.—E. M. Symmes, V, is now with the Hercules Powder Company in Wilmington, Del., being no longer out among the Mormons at Bacchus, Utah.—A. O. Wilson, I, is now general superintendent of the Smith Iron Works Company in Chelsea, Mass.—E. M. Young, I, writes that the \$10,000,000 Picric Acid Plant at Brunswick, Ga. at which he has been working, has been completely shut down, and he expects to be back in the Hub in the very near future.—Any new development in the process of correction of the Honor Roll or the chronicling of pertinent class news will be taken care of in the postscript notes to be written a little later.

CHANGES OF ADDRESS

Lieut. Charles M. Barker, 26 Glenarm Street, Dorchester, Mass.—Kester Barr, 154 Highland Avenue, Buffalo, N. Y.—Norman De Forest, 17 Madison Avenue, New York City.—Sergt. Russell D. Francis, Box 84, Cochituate, Mass.—Herbert Fryer, Room 506, 10 State Street, Boston, Mass.—Lieut. Oscar J. Gilcreest, 155 Church Street, Schenectady, N. Y.—Lieut. James O. Greenan, 766 Calmar Avenue, Oakland, Cal.—Kenneth Greenleaf, 452 Taylor Avenue, Detroit, Mich.—J. F. Harrington, State Tax Department, Albany, N. Y.—Isaac Hausman, 222 Sycamore Street, Toledo, Ohio.—Lieut. Thomas S. Killion, Company D, 329 Labor Battalion, Railhead Office, Bourmont (Haute Marne), France.—H. E. Lake, High Street, North Wilmington, Mass.—Capt. Harry P. Letton, 1910 E Street, Lincoln, Neb.—Capt. Raymond H. Lord, 101 Capen Street, Dorchester, Mass.—Norman A. Lougee, General Electric Company, Consulting Engineering Laboratory, Schenectady, N. Y.—C. R. Perry, care of Colts' P. F. A. Manufacturing Company, Hartford, Conn.—Capt. Richard H. Ranger, 1st Corps Signal School, A. P. O. 703,

A. E. F.—W. J. Seligman, care of Hartmann Brothers, Inc., 80 Wall Street, New York City.—Hubert S. Smith, 16 West Street, Chatham, Ont.—Donald W. Spithgate, 722 Quincy Street, N. W., Washington, D. C.—Ernest M. Symmes, care of Hercules Powder Company, Wilmington, Del.—Maurice R. Thompson, care of Baltimore Copper Smelting and Rolling Company, P. O., Highlandtown Branch, Baltimore, Md.—Lieut. H. W. Van Hovenberg, Room 2, Foreman Building, Texarkana, Ark.—Ensign Norman S. Wade, 59 Irving Street, West Somerville, Mass.—Lieut. Henry Wood, 54th Artillery, C. A. C., A. P. O. 719, A. E. F.

1911 POSTSCRIPT NOTES

Lil' ole nineteen ditto is only four days old as your secretary transcribes these postscript notes, and to date approximately one-fifth of the class have answered the "bill-ydu" sent with the blotters. But then, Rome was not built in a day a. t. f. s. One more name has been added to the Roll since writing the original notes, the count now standing at one hundred and fifteen. J. P. Hart, VI, has been, and still is officer-in-charge of the electrical school at the Naval Operating Base, Hampton Roads, Va. His rank is Lieut.-Commder. (Ret.), U. S. N.—"Don" Stevens, II, has advised the secretary that H. S. Alexander, II, is now a captain and a member of the American Expeditionary Forces.—Charles Edwards, Jr., XIII, writes that he went to France as 1st lieutenant in the 307th F. A., and later was transferred to this country with the 46th F. A., with the rank of captain.—Through a newspaper error in reporting army orders, the rank of J. S. Gravely, V, appeared on the blotters as lieutenant-colonel, whereas his real rank was that of major. In a recent letter he made the following explanation:

I was promoted from captain to major last January, and the New York "Times" published my name as a lieutenant-colonel, along with several others who were really majors.

Last May I was urged by the Winchester Repeating Arms Company to return to my former position with them. After considering what I was doing in the Ordnance Department as compared with what I would do at Winchester's, I decided that it was my duty to go back and accordingly resigned my commission. The resignation was accepted May 11, 1918.

Gravely's address is now 127 Alden Avenue, New Haven, Conn.—Marcus A. Grossman, "A. B.", III, will complete his government work at the Bureau of Standards, Washington, February 1, and will go back with the American Vanadium Company, Bridgeville, Pa.—The Secretary recently had a breezy letter from Charles A. McManus, I, a former classmate, who graduated with 1912. He has been and still is doing engineering work for the Fore River Corporation, being at present in charge of the construction of a torpedo boat destroyer. He wanted to be remembered to "all the boys."—"Art" Leary, XI, I, writes under date of one-one-one-nine that he has just received his discharge from the army. . . . He got as far as the Officers' Training School at Fortress Monroe, when the armistice cut short his chances for a commission.—1911 visitors to the Paris Bureau, through November, included Lieut. O. V. Chamberlin, II; Lieut. W. C. Davis, Jr., I; Major C. R. Johnson, X; and Lieut. M. C. Kinney, IV.—The secretary bumped into Franklin Osborn, III, in the Cambridge tube the day after Christmas and had a nice chat with him en route to the Hub. He is still up in Canada and likes as well as ever, although the States look good when he's here, quoth he.—Our late classmate, Lieut. P. A. Rideout, I, has been awarded the Distinguished Service Cross posthumously, witness the following citation:

1ST LIEUT. PERCY A. RIDEOUT (deceased), 1st Gas Regiment. For extraordinary heroism in action at Clerges, France, October 4, 1918. Lieutenant Rideout made an

extended reconnaissance in advance of the outposts, fearlessly exposed himself to enemy machine-gun fire, and being several times knocked down by exploding shells. The information he secured was valuable to the infantry, giving them knowledge of the exact location of machine-gun nests. During the action this officer directed the laying of the smoke barrage from an exposed position, remaining at his station throughout the operation, in spite of severe shell and machine-gun fire, and continuing to display the highest courage, until he was killed by shell fire. Next of kin, Mrs. Helen P. Rideout, wife, 8 Armory Street, Springfield, Mass.

The class of 1911 may well be proud of such a member!—The following clipping is from the Boston "Globe" of December 13:

HONOR ROLL OF FIGHTING MEN IN 1911 TECH CLASS

A roll of honor of the one hundred and twelve members of Tech class of '11 who were in the military or naval service of Uncle Sam when the armistice was signed on November 11, has been issued in the form of a red, white and blue blotter for graduates and friends, signed "Dennie," which is the familiar title of Orville B. Denison of Cambridge, class secretary, and formerly Tech correspondent for the Boston "Globe."

The class total at graduation was four hundred and eighty-six, so the roll of honor contains twenty-three per cent. The names of those in service abroad are printed in red ink, the others in blue. To the names of four, M. B. Brownlee, Jr., W. F. Herrick, S. P. Kimball and P. A. Rideout, is affixed the star signifying that they have paid the supreme sacrifice. Mr. Kimball died at Camp Upton, N. Y. The other three were with the American Expeditionary Forces.

Mr. Denison will welcome any additions that fellow alumni may be able to suggest to him.

We have another classmate who has been awarded the Distinguished Service Cross, and who should it be but Lieut. George C. Kenney, I, witness the following citation:

1st Lieut. George C. Kenney, Air Service, pilot, 95th Aero Squadron, for extraordinary heroism in action, Jametz France, October 9, 1918. This officer gave proof of his bravery and devotion to duty when he was attacked by a superior number of aircraft. He accepted combat, destroyed one plane and drove the others off. Notwithstanding that the enemy returned and attacked again in strong numbers, Lieutenant Kenney continued his mission and enabled his observer to secure information of great military value. Home address, care of L. Gordon Glazier, 4 Egremont Road, Brookline, Mass.

Good for you, George, we knew you'd do something like that!

Blotters sent to the addresses the secretary has on hand for the following classmates have failed to reach them, being returned to the writer: A. W. Brooks, VI; A. W. Carney, III; O. V. Chamberlin, II; I. C. Creighton, II; A. T. Cushing, I; R. S. Damon, I; E. N. Fales, II; C. T. Greenleaf, II; J. C. Knight, I; S. H. Lawton, V; H. S. Lord, II; E. A. Nash, II; J. H. Scoville, IV; L. A. Stover, II; W. W. Warner, I; C. S. Williams, Jr., V; S. C. Willis, I; and A. W. Yereance, I. If you know where any of these boys are, and in fact, why not anyway — WRITE TO DENNIE!

1912

RANDALL CREMER, Secretary, 7 The Circle, Rochelle Park, New Rochelle, N. J.

Now that the war is successfully filed with the finished business and the stress of work has abated somewhat, there is no reason why we should not hear at once and often from the busy ones who have not been getting their eight hours sleep. From now out no excuse will go, so flood the mails.

So many big things have been happening of late that we feel some regret that there is only a little to report in this number. Quite a few tail-enders got in under

the wire with their commissions before the Hun quit, however, and we are still getting word at this late date from remiss classmates who had not previously reported themselves.

Dick Wallis writes:

After a three years' stay in the great northwest, Minneapolis to be precise, I am now in Washington doing what I can to help lick the Boche. Unfortunately my draft board would not permit me to see active service so I am with the Construction Division, Engineering Branch, as an Expediting Engineer. Our particular section handles all of the ordnance projects such as depots, proving grounds, etc. The work is very interesting as I come in touch with a great variety of subjects, some of which I know something about and others about which I am learning.

Among others I had a letter recently from Roger Davis. He is now a "City Father" to his old home town, Hartford, and I expect has grown very dignified.

While in Minneapolis I became engaged to Miss Dorothy Harwood, so I consider my stay there a great success.

Congratulations Dick, keep it up now.

Bill Lange, at Camp Fremont, Cal., July 18, 1918, contributes the following:

Since seeing you I worked for about a year and a half with the Snare & Triest Company, on the third tracking, the 3d Avenue Elevated.

Then I worked for about a year with the Turner Construction Company, reinforced concrete factories. I left them May, 1917, to go to the Officers' Training Camp at Madison Banks, N. Y. Since that time I have been in the army, at present second lieutenant, Company C, 319th Engineers, the divisional engineer regiment that belongs to the 8th Division regular army.

I spent about four months with the 306th Engineers, at Camp Jackson, S. C., leaving there last Christmas to come out here.

Since seeing you several years ago another daughter has come to our house, making two. Mrs. Lange and both kids are with me here, living right near camp. We are all in good health and like it out here pretty well.

I've been in the army now for about fourteen months and still haven't done anything but drill recruits. I've almost got to the point of getting tired of that. The 319th is ready to go to France any time now, and is a pretty good outfit, all of the men being volunteers and selected by ourselves from a big bunch of recruits. We don't know when we will leave here. It may be a week or it may be a year. We are so far from Hoboken that I guess the War Department doesn't know we're here at all.

Apparently they didn't remain long in ignorance there. I saw Bill about October 1, and he was sailing next day for France to build those proposed bridges over the Rhine.

This from Doc Sloan:

I received your letter a few days ago after it had toured the country from the Army Aviation School, the Navy Aviation Detachment at Tech, and finally to the Curtiss Aeroplane Factory where I am stationed temporarily.

You see it was this way. About last December I decided I would enter the service. I had used reams and reams of paper, yards and yards of typewriter ribbon and finally succeeded in convincing the Bureau of Navigation that I might be useful to the service.

After I had almost given up in despair I received on the 12th of March an order to report for physical examination at the Boston Navy Yard. I could not get there any too quickly to satisfy me and after spending a whole day going through the numerous departments and signing my name not less than one hundred times, I was ordered to report at M. I. T., for the U. S. N. A. D. for ground duties.

After I had completed the twelve-weeks course there, I was shipped to Buffalo with twenty others. Here we were put through an inspection school, getting practical work and ideas. We have just completed this course and took our four-hours final exam last Monday. I hope this will be my last exam forever.

Last Tuesday I found out that I was recommended for a commission so will hang around Buffalo waiting for my commission to be ok'd from Washington.

Within two or three weeks I am to be stationed at Curtiss Garden City Plant of New York, and will be connected with the production end of the sea-boats.

So much for my career since I have been in the service.

I will first tell about A. Clifton Albee who has been in business with me for about two years. We started about two years ago on mostly nerve and very little money, and have been able to make both ends meet up to date, and, although the war may hamper us in the building line, we hope to exist until it is over.

Cliff has worked like a trooper putting not only all his energy and will power but mostly his nights and Sundays into the business. We specialize in excavation and concrete work and have built several oil stations about Boston. We will take anything up to \$4,000,000. Oh! wait a minute, I got the ciphers too numerous, I mean \$4000, and do you know we have the greatest rivalry with some of our largest competitors like Stone & Webster, Aberthaw Construction Co., Holbrook, Cabot & Rollins, etc., but sometimes we get a job.

I did see Applequest while I was at Tech, and he was in the Army Aviation School, but I do not know where he is located now. He probably has his commission by this time and is doing some important work.

Oh yes, Edgerton, the dear boy, was about two or three flights behind me at Tech, and was taking the ground officers' course.

Jonathan A. Noyes is district sales manager of the Sullivan Machine Co., Duluth, Mich. He has brought up a very nice family I hear.

With best wishes I still remain a sailor that does not sail, an aviator that does not aviate, but here is hoping I may fly although not a flyer. Future address: Curtiss Plant, Garden City, Long Island, N. Y.

Do not forget to write again when you are not looking for news.

Jerome Applequest sends the following from Swissvale, Pa.:

It was a real experience for me to be back at Tech. Instead of getting into classes at nine o'clock in the morning as in old 1912 days, we formed out in the quadrangle at 5.40, and no seconds A.M. corrected to longitude of Boston. At seven o'clock I had the pleasure of taking one of the M. I. T. rifles out for a walk. It may have been the same one I used to carry around in freshman drill; I can't say for sure, but judging from the weight of it, it was the same. After taking the twelve-weeks course (lengthened from the original eight week) I was commissioned second lieutenant in the Air Service and am at present located at the Union Switch & Signal Co., at Swissvale, Pa.

Haven't run across any '12 men around here yet, but if I do I'll pass on the word in case you have not reached them.

This from Tod Greenleaf, Savanna, Illinois:

Your recent tickler has just been received, which reminds me that something of the sort came in some time ago, but I put forth the alibi that at that time I was too busy preparing to offer my services to the Government.

Like the majority of others, although a trifle late, I, too, had the fever, and on August 15 entered the Field Artillery Central Officers' Training School, at Camp Taylor, Kentucky. I had often speculated on just what was meant by intensive training. Now I know. I am firmly of the conviction that an officer of field artillery must have a thorough working knowledge of everything from mopping floors to ballistics and conduct of fire, and accept my assurance that is a long cry.

After the signing of the armistice, we were given the opportunity of resigning if we so desired, but as there were but three weeks of the course remaining, most of us elected to see it through. On the 4th of December we emerged second lieutenants in the Officers' Reserve Corps and were returned immediately to civil life. Of course we regret we did not have the opportunity of going over, yet we take solace in the thought that we put in three and a half months of the hardest work I ever expect to do.

In company with fond wife, who did her bit by teaching school during my absence, I am returning to Rock Island, Ill., to resume my duties where I left off with the Henry W. Horst Company, general contractors. We are at present putting up workmen's houses for the Government, as the Rock Island Arsenal is to be one of the large, permanent arsenals.

I occasionally hear from Vin Gallagher, as often as he hears from me I presume, who is ensign in the Naval Reserve and stationed at New Rochelle as assistant inspector of engineering material with the Johns-Manville Co. Have also heard

from Bab Babcock, who is in Paris, and according to last report had received his commission as second lieutenant and was working on appliances for the Liberty Motor.

From Keb, Major Kebbon, still at Camp A. A. Humphreys, Va.:

I have not much news worthy of the term. I expect to remain in the service for several months more, at least as I have made a comprehensive plan for a permanent Engineers' School and Port here at Humphreys, which after much study and many readjustments has been approved by the Chief of Engineers and Secretary Baker. The money necessary to commence the actual construction has been made the basis of a bill to be presented to Congress soon, but with the present desire of that worthy body to retrench, I do not look for immediate results.

I attended a meeting of the Washington Technology Club last week, and greeted several of our classmates. Lieut. Frederick Shepard was there, Norwood Hall, Capt. "Bill" Makepeace, 1913, Lieut. Scully, 1913, Lieut. Henry Shepard, 1914. I went to the meeting with Doctor Dewey, who when called on for a speech, delivered a good one in his inimitable manner. "Ike" Litchfield also entertained us.

Lieut. Howard Cather called on me last Sunday in Washington, and is expecting daily to receive his discharge and return to civil life. "Buck" Doane is at camp in the Officers' Training School, having given up his very important position as government architect for the Philippine Islands in order to enter the service. He came up to the room last night and was much interested to hear about Technology affairs, especially the photographs of the great Reunion and the account of our class dinner at the Engineers' Club in Boston.

Life here at camp is not at all bad, for we are near enough to Washington, only twenty miles, to run in over the week ends, and we have a very comfortable Officers' Club here, and hold at least one dance a week. The Liberty Theater puts on fairly good shows, and horseback rides provide proper exercise over this rolling Virginia country.

Howard Clark writes from that small place "In France":

Until tonight I thought I was fixed for the winter as instructor at this school, Third Corps Engineer Section, but tonight I hear I am soon to move to a very good job in the water supply end of things, all through a little Tech acquaintance which I had.

On Saturday I was in Paris and attended the dinner (monthly) of Tech men at the Union. There were three of us 1912 there, and one 1913: Henry A. Babcock, Harold B. Davis and myself (1912), and T. J. Lough (1913). I had quite a visit with Babcock as he sat opposite me. I told him of your recent letter and he asked to be remembered to you, as did Davis. They all remembered Fox, too, who was over here with me in 1912. About twenty there, only one in civilian dress outside of Director Gibbs, and that one had been made a shave-tail that very afternoon, so it was quite service-like.

In this school I run across many Tech men whom I get interested in, keeping in touch with the Union, etc. We have quite a few engineers polishing them up. Am just back from ten days at the front, going over the newly captured territory, the most interesting trip I have had. Great stores left behind in their pell-mell rush to evacuate.

In returning I found some twenty letters (not from the same girl though), and am trying to clear up a few before I move.

Jesse Hakes writes us from 37 West Preston Street, Baltimore, Md., December 24, 1918:

My career since that eventful day back in the dark ages has been very uneventful. I stayed with the railroad game for two years and then digressed into manufacturing. By a combination of hard work and fortunate circumstance I have succeeded to the position of superintendent with the Baltimore Tube Co. During the past two years we have done our bit by operating as a one hundred per cent essential plant. Our main aid has been to the shipbuilding industries.

I have seen very few Tech men, I am sorry to say. David Guy is now living with his wife in Washington, D. C., and is engaged with the United States Geological Survey. I have just finished a letter to John Pettingell, who is now a second lieu-

or beating it for Germany as fast as its wheels would turn, and we are following them right up with our specialty. It is real campaigning we are doing now, officers and all living in "pup" tents and eating off mess kits. Just my luck, when I was an enlisted man, the officers lived on pie, in houses.

This has been just a wonderful experience for me. We have traveled and traveled. Been behind and up to (occasionally beyond) all the fronts from Ypres to Lorraine, seen the Belgian, Portuguese, Italian, Algerian, Gurkan, Egyptian, Russian, French, British and German troops. To be sure, the only times any of our men have been beyond the front were more or less accidents. A couple of our officers ran right out into No Man's Land in a flivver one day near Fismes. The line was not marked in any way and they just rolled merrily along the road until machine gun bullets started to patter. Then they turned around and came back.

Had a revival of the good old stuff we used to work on in that little old office on the fourth floor of Engineering A. Eight structures to investigate for the extra heavy load they were contemplating. Luckily, I had the original figures in French. So after a week's hard labor with my little staff, I reported them all safe and just to show my confidence in my instructors rode the first load over.

How this army has grown since we first landed! We were curiosities then to French and Tommies alike. The Froggies took us for Australians or New Zealanders because of the similarity of hats. And when they found we were Americans, wanted to know what language we spoke at home. How that French language has changed since we lisped it, too. The French have obligingly altered the pronunciation so you hear about once in so often the exasperated Yanks remark, "Why, the damn fools don't even understand their language, themselves." And as for the girls — well that stuff is international.

But now, some of the Yank promises have materialized. You realize there is a third big army in the field, when you see train after train returning, loaded with Americans. A while ago I was in a section where some towns, four years in German hands, were taken by Americans. We certainly were a popular army there, engineers and all. And personally, though this war can't end any too soon, I'm as happy as ever. I'm traveling along up without any special deeds or merit. While a sergeant I took an exam for the Corps of Engineers, and my Tech degree which so many fellows have found valuable, and the regular army methods of advancement have landed me a captain to date.

George B. Sampson, II, is an inspector of ordnance for the Yale & Towne Manufacturing Company, Stamford, Conn

Bob D. Bonney, X, is chief chemist with the Congoleum Company, Marcus Hook, Pa. He notes:

I'm with a live, wide-awake company and trying my best to hold the pace or a little better.

There are lots of Tech men around here, but they never seem to get together. I'll bet if some live wire got their addresses and got up a Technology dinner, they couldn't get all the crowd into the dining-room.

I met Jerry Fallon (ensign) on the street in Philly the other day. He's at the aircraft factory at the Philadelphia navy yard.

About a month ago I met Roger Williams, V, down at Wilmington. He is with Du Pont.

M. W. Salomonson, IV, is with Monks & Johnson at Philadelphia, designing shipyards. Spaulding, X, was down here a few weeks ago.

I saw Bill Mooney, IV, a couple weeks ago. He's making a hospital of the Grand Central Palace at New York. There was a regular reunion of M. I. T. course V and X men, at the Chemical Exposition. It seemed as if most every one was there.

I won't bother you with any more news. Here's my dollar.

A. J. Pastene, X, is works manager for the Chemical Company of America, Inc.

Robert T. Portal, VI, is at Camp Hancock, Augusta, Ga.

Adolphe C. Cardinal, XI, at last stirred to action by exuberance over his engagement writes the following:

During the years of the war, I have remained on my regular job because my eyes kept me from every army and navy thing that I tried for, and even when my number came up in the draft, the eleven doctors on the medical advisory board

voted me into class 5. However, I have held a secretary job for the industrial division of the War Fund Campaign, and also for the silk division of the Liberty Loans, which took quite a lot of time and work, but in both of which things we always put it "over the top."

During the past year I have been alone at the head of our Paterson mill, due to my father being very ill since March, at which time he underwent a very serious operation. I'm afraid that he will never recover his health again.

Of course I always read every word of our section of the REVIEW, and hope that some time in the near future '13 may get together again. From now on I suppose we shall hear many very interesting things about our friends who have been "over there." As my father is from Lyons, France, you may be sure the result of the war was more than ordinarily satisfactory to our family.

I run into some of the fellows in the New York Tech Club now and then, but the war has cleaned out most of the young ones of our class from that spot for the present.

If you ever get near the Big City, let me know, as I would like very much to see you, and if you care to see a smooth business, I can show you how fine silks are made.

Lester Hoyt, V, is the first man we have seen who has been able to get a vacation. He notes:

Have just recently returned from my vacation. Went back to New England for a look at some country that isn't all flat like this forsaken part of New York State. Had a fine auto trip up into Northern Maine and went deer hunting, when the season opened October 1. Was fortunate enough to bag a small deer the second day. Wish things were so arranged that I could try my luck at shooting Heinies. Think I would enjoy that kind of skunk shooting.

I was in Boston Monday, October 7, and went over to the Institute, which I found a changed place in war time. The Freshman Class is expected to be very small this year, the upper classes practically nil, one of the profs. told me.

Have been and continue to be extremely busy at —. Our chemical staff has been sadly depleted during the past few months, and I have had a lot of work to do in connection with government contracts for various kinds of soap, as well as considerable experimental work on some secret preparations for the Gas Defense Service. So I'm getting a share of "war work," even though still in no official capacity.

Philip S. Barnes, X, has received his commission as ensign.

Paul E. Rudolph, I, is a clerk with the army Motor Transport.

William G. Horsch, XIV, has been commissioned 1st lieutenant in the Chemical Warfare Service.

Arthur W. Carpenter, X, has been commissioned lieutenant and is with the San. Corps, A. E. F.

Allan S. Beale, I, has been commissioned as 2d lieutenant, stationed at the Aviation Concentration Camp, Dallas, Texas.

George R. Wallace, Jr., X, has been commissioned captain and is connected with the field artillery.

George W. Bakeman, XI, is now affiliated with Red Cross work.

Capt. Donald Neumuller, who has been in command of the 8th Construction Company, returned from overseas December 12, on the "Adriatic."

The following extract from a letter of Corp. Edward A. Hubbard, 55th Artillery C. A. C., A. E. F., has been sent to us by the Technology War Service Auxiliary:

Last night I spent in a dugout on the front, where there is most going on — right in the middle of everything — and tonight in "Gay Paree," — some change!

I went to the University Union and saw Mr. Gibbs. I got lots of things from him, and he was a wonder. Fixed me up in every way. Gave me a complete equipment, which was much needed, as I left our battery position with nothing but the clothes on my back. He said if I needed anything at any time, to let him know.

I certainly appreciated all that Mr. Gibbs did for me, and the feeling of being "at home" that the Union gave me. It was fine to know that you had a real place

to go. I had also much good food. Some contrast, a dirty dugout and army food one night, in Paris with a bed the next.

Alan H. Means is 2d lieutenant, 341 F. A., 155 Art. Brig., Amer. E. F., care Postmaster New York City.

David F. Baker is with the Blast Furnace Department, National Tube Company, of Lorain, Ohio.

Henry E. Randall died during the recent epidemic, in New York. Word received through Prof. R. R. Laurence, January 6, 1919.

Gardner R. Alden, X, is with the Conservation and Reclamation Division, care Depot Quartermaster, Atlanta, Ga.

Arthur Kenney in Washington managed to pull off a few little class dinners. At one of them Professor Tyler was their guest.

Indirectly, we learn that L. H. Lehmaier, III, who is now major in the Australian Army, was in Boston in connection with some sort of a drive in which Australian officers participated. We are glad to hear that he has come out safe, as he has certainly been in the thick of it. He was on a troop ship on the Pacific Ocean shortly after the declaration of the War, was at the Dardenelles and has been at the front in France since leaving that spot so disastrous for the British. He did manage to get time off to go to London to be married.

Mr. and Mrs. Charles H. Hopkins announce the birth of Jean Louise Hopkins on December 27.

1914

C. J. CALLAHAN, Secretary, 57 Wentworth Street, Charleston, S. C.

ELMER E. DAWSON, JR., Assistant Secretary,
28 Washington Street, Winthrop, Mass.

MR. LEON HUBERT WEBBER, '14, VI, S.M., '15
Born October 13, 1891—Died January 13, 1919

He was the son of Walter H. and M. J. Webber. He was graduated from North Brookfield High School in 1909, was three years at Worcester Tech, 190-912, two years at M. I. T., 1912-14, taking S. B. degree in 1914 and S. M. degree in Electrical Engineering in 1915.

He spent the year 1915-16 as Research Assistant in the Electrical Engineering Research Laboratory. He later spent some months with the Cumberland County Power and Light Co., Portland, Me., and during the period preceding his enlistment in the service was assistant to the Transmission Engineer of the New York Central Railway. He left this last position to enter the Naval Service in December, 1917, with the rank of ensign; recently he was promoted to the grade of lieutenant (j. g.) United States Naval Reserve Force.

Since entering the service he has been Naval Inspector of Ordnance, in southeastern district, covering the states south of Virginia to the Gulf and west to the Mississippi River. He has been inspector of naval ordnance and ordnance supplies manufactured for the Government in the United States for use abroad. He was stationed at Raleigh, N. C., from the time of entering the service, December 12, 1917, until March 29, 1918, when he went to Birmingham, Ala., where he died.

Funeral services were held at his home, 71 School Street, North Brookfield, Mass., Saturday, January 18, 1919, at 2 P.M.

A letter written by Mrs. George to "The Tech," December 17, 1918:

DEAR SIR: Earl Mortimer Newlin went to France as first lieutenant, Company C, 312 Machine Gun Battalion, 79th Division. A letter received from his father by the War Service Auxiliary gives the following information:

"A letter written by Mortimer shortly after he was wounded will doubtless be of interest to you.

"Address me now Base Hospital No. 6, A. P. O. 705. It is a wonderful hospital right in the City of Bordeaux—a beautiful old college all done over and modernized by the Americans for hospital service—fine nurses and corking good nurses—excellent beds, food and care. There are so many of us now that we are in a ward, but ordinarily the officers have private rooms. I will have one soon, but like the ward best. There is a lot of company, and every one is cheerful and happy, and there is a lot of interesting talk. You see we are from many divisions, and divisions do not usually intermingle. I was hurt on the night of October 29—going out after a couple of my platoons that had been a little demoralized by shell fire (we were making a night relief), and just after I had gotten them all collected and all but two squads sent up into place, a fast 88 H-E, one known as a "whiz bang," burst right under my feet. The explosion didn't hurt me at all, didn't even knock me over, but a couple of little fragments slid up through the sole of my boot, slashed up my big toe and lodged back under the arch of the heel; some more bits caught me in divers places, one clean cut in the calf of the left leg, and one clean cut in the thigh of the right leg on the inside, both very minor wounds. One little piece buried itself in my left middle finger, one in my left thumb, one in my left thigh, just above the knee—I just found it was in there a few minutes ago—and the last one slid up my left temple. None of the hurts were at all serious. I was able to walk the quarter mile remaining to the gun positions with the two squads which were happily very near a first aid station, and my own command post."

"Capt. Earl Mortimer Newlin arrived in New York the morning of December 3, the change in designation being very gratifying to us. He expects soon to be sent to the hospital at Fort Snelling, Minn., and to be able to spend his holidays with us here or in Minneapolis."

"The wound in Mortimer's foot still necessitates the use of crutches, but we hope the injury will not leave any permanent disablement."

Frederick P. Karns is captain, Co. F, 15th U. S. Engineers, A. E. F., France—John C. Potter, VI, is first lieutenant, Signal Corps, U. S. A., Headquarters Central Department, Chicago, Ill.—Harold W. Barker, IV, is lieutenant of engineers, at present in France.

From the Boston "Evening Record" of December 14, 1918:

One of the most popular officers in the United States Army, according to the many stories told by Dorchester men who have arrived home, is Capt. Edward Murphy of the Coast Artillery, a nephew of Superintendent of Sewers Edward F. Murphy, of 898 Adams Street, Dorchester.

Captain Murphy enlisted in the service as a private and worked his way up the ladder by hard work. On enlisting in March, 1917, he was sent to Fort Monroe, and later to Fort Revere as the senior officer. Still later he went to Fort Sam Houston. Although he tried hard he never was able to get across, which was his one ambition. He is a graduate of Massachusetts Institute of Technology.

Word has been received of the death in Savannah, Ga., early in week of December 16, of Robert Turnbull Gookin, son of Mr. and Mrs. James A. Gookin of 356 Seaver Street, Roxbury. Mr. Gookin was stricken with pneumonia, and died a few hours before his parents reached the city, where he had been engaged in government work for about two years.

Mr. Gookin was born in Dorchester, December 24, 1889, and was graduated from Massachusetts Institute of Technology in 1914. He was an instructor in chemistry at Tech the following year, and then went to Savannah to take charge of municipal milk and water inspection. He subsequently became chief United States government inspector at the American Sugar Refinery, Savannah.

In January, 1917, Mr. Gookin was married to Marie G. Hogan of Dorchester, formerly a Boston high school teacher. His survivors are his wife, an infant daughter, his parents and two brothers, Dr. Vincent A. Gookin and James Gookin.

Norman D. Macleod has been cited for bravery. The official announcement follows:

HEADQUARTERS 26th DIVISION AMERICAN EXPEDITIONARY FORCE

France, November 17, 1918.

GENERAL ORDERS

No. 102.

1. The division commander takes pleasure in announcing the award of the Distinguished Service Cross to the following named officer, Capt. Norman D. Macleod, 103d Field Artillery, for extraordinary heroism in action at Marcheville, France, 26 September, 1918.

While acting as artillery liaison officer, Captain Macleod displayed remarkable courage and judgment under terrific artillery and machine gun fire. In addition to his duties as liaison officer, he volunteered and took personal command of a detachment of infantrymen who were without officers, and by his personal bravery and resourcefulness successfully withstood a violent counter-attack by the enemy.

By command of Brigadier General Bamford:

DUNCAN K. MAJOR, JR.,
Chief of Staff.

While at Technology Captain Macleod was taking Course II. He graduated in 1914, and went to Providence, R. I., to accept a position with the Brown & Sharpe Manufacturing Company.

1915

WILLIAM B. SPENCER, Secretary, 544 North Grove Street, East Orange, N. J.

FRANCIS P. SCULLEY, Assistant Secretary, 5 Exeter Park, Cambridge, Mass.

We can give no tribute great enough, pay no homage deep enough to honor the memory of our beloved classmates who have given up their lives on the battlefields of France, for the freedom of their homes and their country.

Lieut. George N. Althouse, 315th Infantry, U. S. A., was killed in France while leading his platoon in a charge on German machine gun nests. His captain, David E. Williams, Jr., wrote to Mr. Wilson D. Althouse, his father, describing his death, and praising the bravery, pluck and leadership which George always showed. He was honored and loved by his friends and men in the service for those same qualities of good-fellowship and manhood which we found in him as our classmate.

Lieut. EDGAR D. BASCOM—Word has been received by Mrs. Winnie L. Bascom of Abington, that her son, Lieut. Edgar D. Bascom, was killed in action October 24. He was a member of B Company of the 101st Infantry, and a graduate of Technology. In 1917 he attended Plattsburg, where he received his commission.

The War Service Auxiliary reports the death of Lieut. Theodore H. Guething on October 15. He died at Picatinny Arsenal, Dover, N. J., of pneumonia. "Spig" Guething received his B. S. degree with 1915, but entered and held class affiliations with 1914. Few men were better known then he about the Institute while he was there, for he was a fellow of splendid qualities. Whether it was in the classroom or on the athletic field, "Spig" was an inspiration to the rest of us.

Ensign John F. (Fritz) Staub is at the large naval station in Killingholme, England. He has been serving as Junior Aid in addition to his flying work.

M. F. Brandt has received his commission as ensign, U. S. N. A.—Henry Dowst, Jr., is located at the Ordnance Corps Training School, Pennsylvania State College.—George P. Elliot is with the 14th Chemical Railway Engineers, A. E. F.

Azel W. Mack is a lieutenant in the Gas Defense Division, Chemical Warfare Service, U. S. A.—John F. Bauer, Jr., was kept out of active service on account of

his eyes, and has gone into radio work. He is now in the 298th Aero Provisional Service Squadron, Carnegie Technology, Pittsburgh.

Lieut. Paul H. Taylor has been cited for distinguished service in France. He is one of the few men whose work behind the lines won for himself praise in the general orders. Lieutenant Taylor's work was in the mobile repair department.

Henry L. Leeb is now 1st lieutenant in the navy, attached to Radio Service, and is also admiral's aid.—Alfred F. Nye, IV, is 1st lieutenant F. A., U. S. A., Battery E, 13th Regiment, Camp Jackson, S. C.

Ensign Henry C. Sheils was married to Miss May M. Lynch in Roxbury, about the middle of September.

Lieut. Howard H. Wells, Aviation Section, Military Aeronautics, was married to Miss Margaret Johnson on November 12, in Los Angeles, Cal.

Lloyd H. Chellman and Miss Alice Willard were married in Roslindale, Mass., on November 16. Chellman is attached to the Engineers Corps, U. S. A.

Ralph D. Waterman has been working during the past year on the construction of the mammoth Hog Island ship building plant, where so many records have been broken.

Walter M. Africa is with a concern installing toluol apparatus at many of the gas plants throughout the country.

1916

JAMES M. EVANS, Secretary, 1916, 16th Street, N. W., Washington, D. C.

DONALD B. WEBSTER, Assistant Secretary, 18 Clarendon Street, Malden, Mass.

* * * * *

INGRAHAM, FRANKLIN T, April 11, 1918. 2d Lieut., C. A. C. Died of pneumonia at home.

ERVAY, BRONAUGH E., November, 1918. 2d Lieut. 21st Infantry. Died of influenza while in Washington, D. C., on special duty.

MAYERS, HAYDEN POTTER, November 13, 1918. Capt., 60th Infantry, 5th Division, A. E. F. Killed in action.

MORRISON, PHILLIPS G., October 12, 1918. Capt., Ord. Died of pneumonia at Aberdeen Proving Grounds.

ROPER, GEORGE, JR., May 27, 1918. Cadet, British Royal Flying Corps. Killed in an accident in England.

SPRAGUE, WILLIAM G., October 26, 1918. Ensign. Died at Ile Tudy, Finistre. Won Croix de Guerre for attacking and sinking an enemy submarine.

UHLINGER, JAMES P., October 16, 1918. Sig. Corps Aviation. Died of pneumonia at Camp Meade, Md.

WYMAN, ALFRED T., May 27. Lieut., British Royal Flying Corps. Killed in an accident.

Army, 4. Aviation, 3. Navy, 1.

* * * * *

Since we sent our last report to the REVIEW the thundering of the guns on the front has ceased. The tide of war work has started to turn, and the men from "over there" and "over here" are gradually returning to their homes and to their former walks of life. Operations in all parts of the country are bent towards the homecoming of the men and the returning of all to a peaceful and well organized country and government.

The Institute, the class and her officers welcome all Technology men and congratulate each one individually for their achievements in helping to give Peace and Democracy a firm footing in the Universe.

A 1916 Reunion has been talked about for the spring of 1919, and the secretary-treasurer is open to any suggestions as to a probable date and place for such a pow wow. A great many of the "Sixteeners" have stopped off and said, "Hello!" to the bunch in Washington and all sanction a reunion. Any members of the class having ideas or suggestions are asked to put them down on a piece of paper and forward them to the secretary-treasurer immediately. This will enable the officers to have a temporary vote and a rough estimate of the sentiment of the class on this subject before they start things moving.

It was with deep sorrow that we learned of the death of Jimmy Uhlinger, Bill Sprague and Hayden Mayers. Jimmy died after a short illness at Camp Meade, Md. Bill was a flying ensign and had been flying over European waters since July, 1918. He was killed in a battle with the Huns. Mayers was a captain of infantry and was slightly wounded last summer. He recovered and returned to his regiment in August. He is reported to have been killed in an engagement some time in September. Mayers took his army examinations in the fall of 1916 and was appointed second lieutenant in the 19th Infantry on March 22, 1917. He was promoted to captain July, 1918, and was serving with the 60th Infantry in the 5th Division.

"Bill" Wylde, a lieutenant in the 91st Division, Sanitary Corps, was wounded slightly on October 2. He has reported that he was wounded on the head by a fragment of a shell.

The reports that Bill Dodge, IV, was seriously wounded have been corrected by his brother, Parker Dodge, '07, who writes, "that Bill, while serving with the 16th Infantry as a second lieutenant was wounded by shell fragments July 19, 1918. He received five flesh wounds that caused him to be reported as seriously wounded, but under date of August 14, Bill reported that he was about to be discharged from the hospital in Paris and was expecting to return to his regiment."

Raef Alfaro has been commissioned a second lieutenant of Engineers, A. E. F., O. T. C., in France. He is with Chuck Loomis and "Luky" Lucas. Luky is also attending this camp.

Bob Allen, after leaving the Technology Ambulance Unit, joined the French army and is an artillery officer. "Bob" in a recent engagement was the only man left in his battery.

Bill Shakespeare has been promoted to a major in army ordnance. Bill is our second major, being preceded only by Don McRae.

"Moose" Jewett is now chief engineer for the E. I. Williams Drop Forge Corporation of Buffalo, N. Y. This firm has been doing one hundred per cent war work ever since the war started.

Howard Claussen has been promoted to a senior lieutenant in the Navy Flying Corps under the recommendation of Vice-Admiral Sims. Howard returned after serving ten months in France and England. He is the ranking line officer of 1916's navy.

Tom Holden, who was a first lieutenant in the Signal Corps, and who has performed some very valuable experiments in aircraft ordnance, has been returned to inactive duty and has gone to New York to return to his profession.

The class officers wish to extend their thanks to Mr. John G. ("Reverend") Fairfield for his hearty co-operation in submitting class notes for the last issue of the TECHNOLOGY REVIEW.

Now that the members of the class will be returning to their former positions, it is thought wise to ask them at this time to forward the Alumni Association a full record of their achievements for the past eighteen months. A class letter will probably be sent out about the first of February, and the secretary-treasurer respectfully requests the hearty co-operation of every man in filling out the data sheet and returning it immediately.

From June to December, 1917, Arthur P. Coldwell, Jr., was assistant (in charge of ordnance) to the vice-president of New York Air Brake Company; December, 1917, to May, 1918, instructor in airplanes department, United States School of Military Aeronautics, Princeton, N. J.; May to August, 1918, a private in the A. S. S. C. and instructor in Aeronautical School; August 21, 1918, commissioned as first lieutenant in air service duty, instructor in aeronautics.

Thomas D' A. Brophy is captain, C. A. C., Washington, D. C.—Sergt. Carlin F. Harrington of Co. D, 104th Infantry, A. E. F., is now in the United States to instruct at training camps. Address, Headquarters Company, 48th Infantry, Camp Sevier, S. C.—Albert Holmes is first lieutenant, 112th Engineers, A. P. O. 763, A. E. F., France.

Mr. and Mrs. Cornelius Wylde, of Orchard Terrace, have received word from their son, Lieut. Wilfred A. Wylde, who was wounded recently in France, that he has arrived in New York, having been invalided home. His condition is much improved, but he expects to remain in an army hospital for some time. Lieutenant Wylde, who is a graduate of Massachusetts Institute of Technology, served in the gas division in France. He is one of the first of North Adams' wounded soldiers to return.—"Albany Knickerbocker," December 1, 1918.

Mr. and Mrs. Otto C. Winestock of Perkinsville, Vt., have announced the engagement of their daughter, Lillian Clara, to Capt. Halbert Hale Neilson of Lexington, Miss. Miss Winestock is a former student at the New England Conservatory of Music. Captain Neilson is step-son of ex-Governor Noel of Mississippi. He is captain in the 11th Cavalry, and since last June has been detailed to aviation at Park Field, Memphis, Tenn.

The assistant secretary, Donald B. Webster, 1st Lieut., 69th C. A. C., writes from Lussac de Lebaume, Grande, under date of December 14, 1918:

Regret that I am not yet in a position to compile any news, but hope to be again in the near future.

He sends an extract from the "Andover Townsman," of October 18, 1918:

The death of Capt. Phillips Garrison Morrison came suddenly last Saturday night at the Aberdeen Proving Grounds in Maryland, where he was stationed in the Ordnance Department. Friday his parents, Mr. and Mrs. John L. Morrison, of 68 Elm Street, received word that their son was most seriously ill with pneumonia, and Mr. Morrison left at once for Maryland. He was joined in New York by his son, Frederick, and they arrived in time to see him Saturday. He died during that night and the body was brought home immediately under military guard. Major J. E. Fullam was sent to represent the post.

The funeral services were held Wednesday afternoon at two o'clock at the home and were conducted by Rev. Frank R. Shipman and Rev. E. Victor Bigelow. A company from the Phillips Academy Battalion acted as escort to the West Parish Cemetery, where a military service took place. The bearers were commissioned officers from this company.

Captain Morrison had been in Andover only a week before to attend the funeral of Mrs. Irene Wood Sutcliffe. At the time he had a slight cold, which developed, on his return to Aberdeen, into pneumonia. Although he rallied a little on Friday, his illness was too severe for a recovery.

Phillips Garrison Morrison was born in Merrimac, Mass., on March 22, 1894, but soon after the family moved to this town, where he went to the public schools to prepare for Phillips Academy, graduating in the class of 1912. Here he was an

honor student every year and prominent in many school activities, being a member of Alpha Delta Tau, an honorary society. He continued to make a fine record for himself at the Massachusetts Institute of Technology, where he took the electrical engineering course, and was graduated with honors in 1916. Following college he entered the employ of the engineering firm of Charles T. Main, in Boston, and was there until he entered the service in June, 1917. He received at that time a commission as first lieutenant in the Ordnance Department, and went to Frankford Arsenal in Philadelphia, where he was in charge of power plants and auxiliary shops. In January, 1918, he was advanced to the rank of captain, and shortly after, in April, he was transferred to the Aberdeen Proving Grounds in Maryland. Here he was first a proof officer, and later, at the time of his death, he was assistant to Major Fullam, the head of the Acceptance Division.

Besides his mother and father he is survived by two older brothers, Frederick H., who is in the American Woolen Company office in New York City, and Alexander, of 354 Ames Street, Lawrence, chemist for the American Woolen Company in that city.

Captain Morrison was a member of the St. Matthews Lodge, A. F. and A. M., in Andover, and he also belonged to the American Institute of Electrical Engineers.

Throughout his comparatively short life of twenty-four years he maintained the highest ideals, and because of his strong character he was always a vital influence in school, in business, and with his soldiers. At the post he was regarded by every one as one of the most promising young officers. In fact, he was the youngest captain there, and it was expected by his superior officers, Major Fullam and Colonel Phillips, the commanding officer at that post, that he would receive very soon an advancement to the rank of major. This promotion would have meant that he would have been one of the youngest majors in the United States Army, and is only a further proof of his marked ability.

In Andover he was well known and well liked by many friends, so that here, also, in this community, the loss of one of its most brilliant citizens will be keenly felt. The sympathy of every one is extended to the family at this time.

1917

WALTER L. MEDDING, Secretary, Army Engineer School, A. P. O. 714, A. E. F.
ARTHUR E. KEATING, Assistant Secretary, 893 Seaview Avenue, Bridgeport, Conn.

* * * * *

ATKINS, ARTHUR K., August, 1918. 2d Lieut., 165th Infantry.

ATKINSON, HENRY M., JR., November 9, 1918. 1st Lieut., 71st C. A. C. Died of pneumonia at Angers, France.

COUCH, EDWARD S., February 6, 1918. 2d Lieut., B Co., 1st Bn., 22d Infantry.
Death by accident at Fort Leavenworth.

JONES, CHARLES E., February 15, 1918. Cadet, Avia. Sec., Sig. Corps, Observation Pilot. Killed in airplane accident in France.

SWAN, LEROY, June 19, 1918. 2d Lieut. Killed in airplane accident in Springfield, Ohio.

TIERNEY, HAROLD J., October 22, 1918. Lieut., Camp Vail, Little Silver, N. J.
Died at camp.

Army, 4. Aviation, 2

* * * * *

No report received from the secretary.

The following is a copy of a letter which has just been received from Arlando Marine, the father of J. Sidney Marine, who was a lieutenant in the air service, and reported severely wounded in the casualty list of November 20:

It is very kind of you to write inquiring about our son, Lieut. J. Sidney Marine, but I do not know of anything that you can do at the present time. We are having

frequent letters from him, and have also been advised by the War Department. Advices from the War Department, however, did not reach us for two months and eleven days after he was injured. The department simply states that "he was wounded in action" and that "he is under treatment for fracture of the right thigh bone and bones of the leg and multiple lacerated wounds of the face." He writes that his leg was broken three times and that he had to take his food through a straw for some days, but his letters are full of pep and good cheer,—thinks he may be home by Christmas time.

His only reference to the cause of the injury is that he "hit the ground and woke up in the hospital." To us these details, however, are of no particular interest, the point we are grateful and most thankful for is that he did not make the supreme sacrifice.

The New York "Evening Sun" of November 22 prints the following:

Lieut. John C. Tyler of the aviation forces is believed by his relatives to have been killed in action on September 16, since which date he has been missing, although no official news of his death has yet been received. Lieutenant Tyler, twenty-five years old, was graduated from the Brooklyn Polytechnic Institute and from the Massachusetts Institute of Technology. Soon after graduation he entered the aviation corps and after training in France was placed in command of a French escadrille. He was transferred to an American squadron.

From the same newspaper of October 2 is a notice of death of one whose name is on the honor roll:

Lieut. Arthur K. Atkins, formerly an engineer with offices at 87 Wall Street, has died of wounds received in action. When war was declared he went to Plattsburg, where he was commissioned. After that he was stationed at Governors Island for several months. He went overseas with the 165th Infantry, the old 69th, but was later transferred to the 126th Infantry.

Lieutenant Atkins was a son of Mr. and Mrs. Ashley Atkins of Brookline, Mass. His grandfather was Judge Thomas A. Atkins of Yonkers. The soldier was a graduate of the Massachusetts Institute of Technology.

Lieut. H. M. Atkinson, Jr., died in Angers, France, of pneumonia, November 2. While assisting the chaplain of his battery in ministering to the pneumonia patients in the hospital and in burying those who died from it, with no thought of his own personal welfare and without taking the necessary precautions for his own protection, he himself contracted pneumonia, from which he died on November 2.

After enjoying a brief furlough with relatives and friends whom he had not seen for over a year, Lieut. Arthur R. Knight left Sunday night for Washington, D. C., where he is to receive final orders before being sent, with three other lieutenants, to Houston, Texas, to start a school of instruction in night bombardment. Although there are many schools for preliminary and advanced flying in the United States, there is, at the present time, no school of instruction in night bombardment.

Lieutenant Knight has been flying over the lines for the past eight months, three of which have been in day and five in night bombing.

Lieut. Arthur Raymond Knight of Newburyport, who was awarded the Croix de Guerre, has returned from France after some exciting adventures as an airman with the French and American forces. When he first went across he flew with the American air service, and was later transferred to the French. He was in France a year.

Lieutenant Knight is twenty-three years old. He is a graduate of Tufts College, and the United States Army School of Military Aeronautics, Massachusetts Institute of Technology. He is the son of Mr. and Mrs. David G. Knight of Newburyport.

While fortunately escaping serious injury, he was for a short time in a hospital in France with minor injuries received in a crash in one air battle. His many friends in this city wish him success in his future work.

Corp. John G. McCloud, 1725 Woodhaven Avenue, was drafted by Local Board No. 78 on July 27 of last year. He is a graduate of the Massachusetts Institute of Technology, after completing the chemical engineering course in three years in June, 1917. He is a member of the American Chemical Society, Northeast Section, and an active member of the Smithsonian Institute for the Advancement of Science. Corporal McCloud is on special duty as a psychological observer at the base hospital.

Everett L. Gayhart, XIII-A, is inspector of naval aircraft, United States Navy, at Canadian Airplanes Ltd., Toronto, Canada.

Forrest Estey Williford, VI, is now a colonel.

Seymour P. Houghton, XV, was made a captain in June.

S. R. Barrows at last accounts was at the Bath Shipyard in Maine as junior inspector.

W. I. McNeill, XV, was married to Miss Albertina Nelson at Wakefield, Mass., on October 9, 1918.

Capt. N. E. Tourtellotte, IV, is director of instruction, O. and T. C., No. 2 T. A., A. P. O. 753:

There are three of us, another captain and a second lieutenant, and we are picking up pointers on how to run such a center, since we are daily expecting orders to go to a near-by town and start a new center. That is what happened in a number of cases, to the men that volunteered to come over first. They grabbed us off, sent us to a dozen or so schools—French and American—and are now using us as instructors. Of course we are sent to the front off and on, but only for a few days, in a glorified Cook's Tour, to let us pick up what extra information we need in our instructing. However, I've finally got an opening to really get "up there" and to stay up. After we have run a few regiments through our center the colonel in command has been promised a regiment at the front, and in turn has promised to take us up with him. In that way I expect to get up about Christmas time, finally to send a few shells at the Boche himself instead of telling others how to do it!

Edward P. Brooks: Two letters written in September tell of his activities beginning July 18.

Our men are wonderful fighters. Really, I do not think the papers at home or those here have given them any unjust praise. They are superb fighters. I started to write "soldiers," but taken in the sense of the soldiers of the continent they have much to be desired. The average American in our army is over to "lick the Boche and get back home as quick as he can." To accomplish that he is willing to become a soldier, but as he says, "Let's chuck all that an' jes' fight." Not only was it the veterans in this division but many of the new outfits, scarcely having had their baptism of fire, did very creditable work. My own part in the battle was very small indeed. The night preceding, my platoon of engineers accompanied a group of tanks to assist them in case they met obstacles. Shortly after the attack commenced we went out over the field to help any tanks in distress, but things were too hot for us to be able to help. The following days I spent doing odd jobs, such as locating an advanced division, acting as liaison agent with the regiment.

Lieut. Dudley Bell writes under date of August 1, from the McCaul Hospital in London, and October 17, from the American Rest Camp, Standom Hursley, England. In the first letter he writes that his body "was thrown many yards, but never received a broken bone. A dislocated hip, torn muscles, a mass of bruises was the extent of my injury." The more recent letter states that the medical board has decided that he is not yet fit for line duty, so he has been at the Rest Camp temporarily. He finds it hard, however, to reconcile himself to so inactive a life.

Tourtellotte writes that J. F. Wallis, Jr., is a captain in the Coast Artillery Corps, is now an aerial observer and sports a wing. He has been at the front all summer and has had quite a few lively experiences.

Walter L. Medding writes from the Army Engineer School, A. P. O. 714, under date of September 12. He was relieved from the 318th and assigned to a school

in France for a short course in military engineering. At the end of that course he went to the 6th Engineer School, but only for a short time, when he received orders sending him to the address mentioned above, as an instructor in bridging.

S. S. Batchelder, XV, under date of September 3, writes that he was in England, flying, until early in July, and has been since that time attached to a British squadron. His work has been interesting, but to date he laments that he has not been fortunate enough to bring down any Hun machine, but hopes to do so before long.

W. J. Beadle, II, VI, is a lieutenant at the Army Candidate School, Langes.—Alfred K. Althouse, III, was sent to the Officers' Training School at Camp Humphreys, Va., in September.—P. V. du Pont, IX, has left the Institute, where he has been an instructor, and is now in Wilmington, Del.

From the Rochester, N. Y., "Democrat -Chronicle," of December 27, 1918:

Major Herbert C. Williamson, son of Mrs. May Williamson, of 200 Birr Street, has returned from overseas. Upon his graduation from the Massachusetts School of Technology he entered the officers' training camp at Plattsburg in 1917. He was commissioned a second lieutenant and was assigned to Camp Devens, Ayer, Mass. Later he was commissioned captain and sailed overseas in July, 1918. He was promoted to major on October 7, and was acting adjutant of the 76th Division.

1918

DAVID M. MACFARLAND, Secretary, 626 South High Street, West Chester, Pa.

* * * * *

ANGELL, CYRIL M., May 14, 1918. 1st Lieut., 147th Aero Sq., A. E. F. Killed in action.

BROWN, MALCOLM C., July 24, 1918. Lieut., Royal Flying Corps, England. Killed in airplane accident.

EASTMAN, W., JR., November 8, 1917. Instructor, A. S. M. A., M. I. T., Cambridge. Death by accident.

ELY, DINSMORE, April 21, 1918. 2d Lieut., Lafayette Escadrille. Died from injuries received in an airplane accident.

GAILLAC, EMILE B., November 7, 1917. Pvt., 101st Engrs. Died in France of bronchial pneumonia.

GOULD, PRESCOTT W., May 23, 1918. Co. C, 102d Machine Gun Bn., A. E. F. Killed in action.

MAY, JAMES DE G., May 9, 1918. Lieut., Officers' Hdqrs., Kelly Field, No. 2, Texas.

PARSONS, ARTHUR M., July, 1918. 2d Lieut., Aviation. Taliaferro Field, Texas. Killed by propeller.

SAWYER, ENOS C., April 21, 1918. Batt. A, 101st F. A. Died of wounds received in action.

SCHROEDER, FRED E., January 14, 1918. Pvt., 23d Regt. Engrs. Died of disease, Camp Meade, Md.

SMITH, WINTHROP F., October 10, 1918. Ensign U. S. N. Died of pneumonia at Bay Shore, Long Island.

TOVEY, HENRY O., March 22, 1917. Ensign, U. S. N., U. S. S. "Maine." Lost at sea off Cape Cruse.

TUTEIN, CHESTER R., November 17, 1918. Aviation. Killed in [airplane accident in France.

WOOTEN, JAMES C., August 3, 1918 (about). Killed in action in France.

Army, 5. Aviation, 7. Navy, 2.

* * * * *

No report received from the secretary.

Among the many officers and men returning from overseas on the "Canopic," December 11, was Lieut. Carleton W. Blanchard.

"It's good to be home, but it was pretty rotten not to get even one crack at them," grinned Carleton W. Blanchard, of 308 Linwood Street, Abington, a member of the United States Air Service. Lieutenant Blanchard is a member of the class of 1918, at Technology, and left school early in the year for aviation duty. After training in this country he was sent to Monteith, Scotland, to train with the Royal Flying Corps. Later he was attached to the 17th Camel Squadron, so called from the name of the plane it uses. A few days more would have seen him in action.

"I'm going right back to Tech as soon as I am discharged," he declared. "That seems to be about the best thing to do, doesn't it, pick things up again where you left 'em?"

Norman Dawson, XI, commissioned second lieutenant, has been at Saumur Artillery School since landing in France.

Bernard Pinkham is now second lieutenant, Chemical Warfare Service, U. S. A.

The REVIEW office received word of the death on October 16, 1918, of Joseph Amey Shepard.

Every one at the Institute regrets to learn that Mr. Bernard O'Daly, instructor at Technology, passed away December 2. Mr. O'Daly was taken ill just before Thanksgiving with a bad cold. His condition was not considered serious, and he was improving when pneumonia developed. Funeral services were held December 5, at nine o'clock.

Mr. O'Daly was born June 11, 1897. He prepared for Technology at the Boston English High School and entered the Institute as a freshman in the Chemical Engineering Course. He was a member of the Chemical Society, the E. H. S. Club, and the Catholic Club. In his senior year he was president of the Catholic Club. Since he graduated Mr. O'Daly has been an instructor in the Department of Chemistry at Technology.

Lieut. Albert F. Murray, I, of Albany, Ala., is instructing in the School of Military Aeronautics at Cornell University. He was commissioned a first lieutenant in the air service and was assigned to the Signal and Radio Department.

Arthur Litchfield Russell was married to Miss Agnes F. Kelly on November 6, at 7.30. Russell was born December 4, 1896, and prepared at Boston English High School for Technology. He took a course in Electrical Engineering. His thesis was on "The Design of Hydro-Electric Plant at Raymond, N. H." Russell was a member of the Electrical Engineering Society and the English High School Clubs. Mr. and Mrs. Russell are living at 764 Morton Street, Mattapan, Mass.

1919

* * * * *

GARNSEY, ARLO E. October, 1918. Lieut., Avia. Sec. Died of disease in France.

HOMEY, JOSEPH W., JR. November 9, 1918. Ensign, U. S. N. R. F. C. Died of pneumonia in London.

PERO, DONALD C. August 24, 1918. Ensign, U. S. N. R. F. C. Killed in sea-plane accident off Fire Island

SANTOS, ALEXANDER H. July 15, 1918. 2d Lieut., Instructor in aviation. Killed in airplane accident, Brook Field, San Antonio, Texas.

WASGATT, HAROLD C. July 19, 1918. 1st Lieut., 59th Infantry. Died of wounds received in action in France.

* * * * *

Ensign Joseph Warren Homer, Jr., of the United States Naval Reserve Flying Corps, died of pneumonia at the Naval Hospital in London on November 9. Joe Homer, Brookline High School, '15, Technology, '19, was an all-round athlete, fond of football and tennis and more recently of "rugger" and soccer. He was a good swimmer and especially happy when on a spirited horse. He was born in Roxbury, April 11, 1897, but soon afterwards came to Brookline to live, and attended the schools here. After his course at the High School he attended the Stone School, Boston, to prepare for Technology, which he entered with the class of 1919.

While there he was much interested in the activities. He was a substitute on his class football team and rowed on the class crew.

He became one of the reporters on "The Tech," and on April 1, 1916, was made associate editor.

At the time of the opening of the new Technology buildings Joe took no part in the great pageant and celebrations which were then going on, but attended to the drudgery of gathering news and hustling out the daily editions of "The Tech."

He was an active member of the S. A. E. Fraternity, in the good fellowship of which he took keenest pleasure.

But in December, 1916, he decided to get into more definite work and found such an opportunity in the Potomac Cotton Mills of New Bedford. He was given the "run of the mill" and was learning all about cotton from the opening of the bale to the finished shirting.

But the war made him uneasy again. He wanted to be "in it." So, in June, 1917, in the Charlestown Navy Yard, he enlisted as a volunteer in the service of the United States, with the promise of being an aviator. In August of that year he joined the Aviation Detachment Corps at Massachusetts Institute of Technology. On October 27, 1917, he sailed for England, being one of fifteen men who volunteered to go over to learn to fly "Blimps."

After a cold, bleak winter of strenuous study and severe physical training and adventure at various ground schools and naval airship stations on the coast of England, he received a pilot's license. Last spring he was established on the south coast of England, doing convoy and observation work over the English Channel. He was twice lost in fog. Once he was blown sixty miles north of his course, his airship being damaged after landing. Again he was blown eighty miles south, landing for a few minutes on the north coast of France. He steered home by compass, landing within two miles of his destination. In August he was transferred from Eastbourne, England, to a station near Edinburgh, Scotland, and was made third officer of one of the largest airships, a "Rigid" about three hundred feet long, and since then had been flying out over the North Sea. Having established a reputation as an all-round naval airship pilot, he was last month sent to London headquarters where, according to a letter to his father written October 25, he was "taking a course in structure and design of airships," and hoping "to get on to the staff" and feeling "fit as a king."

He was the only son of Joseph Warren and Constance Homer of Brookline. He

leaves his parents, two sisters, Mrs. Edwin S. Parker of Jamaica Plain, and Mrs. Richard W. Crocker of Brookline, and hosts of loving friends.

Letter received by Mr. Homer from his son:

It would be strange to see a soldier discussing such themes did we not know that France had poured out of her very best and finest of character, intellect, cultivation and artistic professions of all sorts, into the trenches and the drear and dreadful vigils, broken into by combats only less horrible than the suspense—fortunately now, all over in time for Thanksgiving and Christmas—had we not, likewise, sent over the finest flower of our youth. The family of one of these young heroes, of a Brookline ensign, whose position in the war was that of naval aviator, pilot of an English dirigible in the observation service and in the conveying of transports over the English Channel, had had two days of serenity and content after the confirmation of the armistice, when official news reached them of a different sort, a despatch from the Bureau of Navigation announcing the death of the young airman. A little later came the cable that was intended to precede it, stating that he was ill in a London hospital with pneumonia. Two days of peace rejoicing and expectation of holiday reunion with their only son were all! The end had come November 9, and peace so nigh! Not long before, in reply to a letter from his father, asking him to give his parents some idea of his sensations in a flight before dawn, the aviator had dashed off the following note, words of remarkable beauty and dramatic vividness and power:

SOUTH COAST OF ENGLAND,
July 10, 1918.

DEAR FATHER—Yours of the 15th ult. at hand and contents carefully noted. I wrote you one long and very poetic letter about the sunrise over the clouds. It is gorgeous—sublime—incomparable—untellable. One doesn't feel very poetic after one has been out in the darkness and fog all night—but when the sun rises and lights up the tops of the mist one forgets the war, the cold, the cramped legs, and glories in the beauty of the scene. The sun comes up out of its cloud of gray, turning it to a shell pink. Then, as it climbs higher, it sets the whole sea of clouds sparkling and seething—a myriad of rainbows, a mass of majestic, rolling, heaving beauty.

There is no use in my trying to explain it—one must be in it and surrounded by it—the only bit of humanity in all the vast firmament—then only can it be appreciated.

It seems that the “long and very poetic letter” to which he referred never reached the father, alas! The true interpretation of the tragedy has been fitly framed in this poignant quatrain:

J. W. H., Jr.
1897—1918

He held his course high o'er the restless deep,
His boon companion was the morning star
He watched; and now the stars his vigils keep —
His flight is winged to where all heroes are.

In reply to your request for information regarding my deceased grandson Alexander Hervia Santos, of Technology, I am glad to have the opportunity of giving you the details you desire:

After graduating high in his class from the ground instruction Aviation School, at Princeton, N. J., he was sent to a training camp at Park Field, Memphis, Tenn., where he won his commission as second lieutenant. He was then transferred to a Post-Graduate Officers' Camp, at Brook Field, San Antonio, Texas, as an instructor, and soon became one of the star flyers there. On the fifteenth day of July, he was appointed to give cadet instruction in making a forced landing. The cadet had previously been instructed as to the method of doing this, but was now to put his knowledge into practice. After my grandson had taken up the plane to the proper height, he shut off the power, to simulate a disabled engine, and turning to his pupil,

asked him what he was going to do about it. The young man had been taught he must depress the nose of the plane—instead he raised it, throwing it on its side, in an aileron spin. The officers in the observation tower saw my grandson at once begin to right the machine, and had nearly succeeded in doing so when for lack of about fifty feet of space, the wing struck the high bank of a dried river, and was completely crushed. My grandson lived about five minutes after reaching the Base Hospital, where he was immediately taken, the cadet injured, but not seriously. My grandson was buried in Baltimore, where he had a military funeral, furnished from Port Howard, near here. I quote you a sentence from a letter sent us by his commanding officer: "He died as a commissioned officer in the service of his country with as much courage and loyalty as though he had already been on the battlefield in France. He certainly merits a place on the Honor List."

From the Albany, N. Y., "Argus" of October 19, 1918:

Victor Wynne, of 274 Partridge Street, who sailed for France ten days ago as a second lieutenant of engineers, has been commissioned a captain, according to a letter received yesterday by his parents, Mr. and Mrs. V. C. Wynne of the same address. The young man is but twenty-two years old and one of the youngest captains in active service.

He is a graduate of the Albany High School and Union College, and also received education at the Massachusetts Institute of Technology. Shortly before notified of his commission as lieutenant, he broke both wrists while assisting his father in the construction of the Delaware & Hudson building. He has a brother also in service.

SCOTT, TANK COMMANDER ROBERT W., 38 Esmond Street, Dorchester. Unofficial.

In a letter to his father, Robert A. Scott, Robert Wesley Scott, XV, states that he was wounded by a shell fragment which struck his "land" battleship. The missile lodged in the left arm. Scott, who is a former English High School athlete and a member of the class of 1919, Massachusetts Institute of Technology, volunteered for the ambulance service in August, 1917. At the call for volunteers for the tank service he responded and became corporal, then sergeant, and was finally placed in command of his tank.—The Boston "HERALD," November 17, 1918.

"The Tech" of October 30 prints the following item about Charles H. Tavener:

Charles H. Tavener has accepted a position as aeronautical engineer in the mathematical department of the Curtiss Engineering Corporation, at Garden City, Long Island. This corporation does all the research work required by the Curtiss Aeroplane and Motor Company of Buffalo, the largest manufacturers of airplanes in America.

While at the Institute Mr. Tavener was a leading spirit in many undergraduate activities. He was one of the founders of the Aero Club, of which he was successively secretary, president and vice-president. He was chairman of the sub-committee on Aeronautic Preparedness, and acted as publicity manager and assistant editor of the Technology monthly. In the technical societies he was a student member of the A. S. M. E., and a junior member of the S. A. E.

John Telford Elliot, son of Mr. and Mrs. John Elliot of Newburyport, has enlisted in the navy for active service and has reported to Bumkin's Island, Boston Harbor.

George H. Wiswall has been elected class representative by the Executive Committee of the Alumni Association, until the class has its own election.

Mr. and Mrs. Frederick Reid Estes of Brookline, announce the marriage of their daughter, Louise, to Captain Frederic Montgomery Lee of the 10th Infantry, U. S. A., son of Mr. and Mrs. Herman F. Lee of Glen Ridge, N. J. The marriage took place at Battle Creek, Mich., last Saturday. The bride, who was to have been numbered among this season's debutantes, is known among her intimates as "Peggy" Estes. Captain Lee, who has been on duty at Camp Custer, was formerly a student at Princeton University, and later studied at Technology, leaving his course there, where he belonged to the "Number Six Club," to go to the Mexican border, where

he was on duty with Battery A. Later he attended the army school in Washington D. C., and there he received his commission.

Clarence Leighton Nutting has returned to Technology as an instructor. He, was sent to a southern camp early this spring and after some time there was transferred to the Chemical Warfare Service at Cleveland. He was again transferred, this time to the infantry and sent back here on an indefinite leave of absence. While an undergraduate, he was a student in course V. He was also a member of the chemical society. Nutting is at present helping Cadet Colonel Hamilton drill the Institute Battalion.

Friends of Major Pierre Drewson, twenty-nine years old, of No. 1078 Park Place, are proud of his record. His early education was obtained at Polytechnic Preparatory School and he later obtained his degree at Amherst College and studied industrial chemistry at the Massachusetts Institute of Technology, where he won a second degree. He was a member of the 7th Regiment, and went to the Mexican border as a corporal. Later he went to Fort Myer, where he was made a captain of infantry and has since been assigned to Camp Lee, Va.